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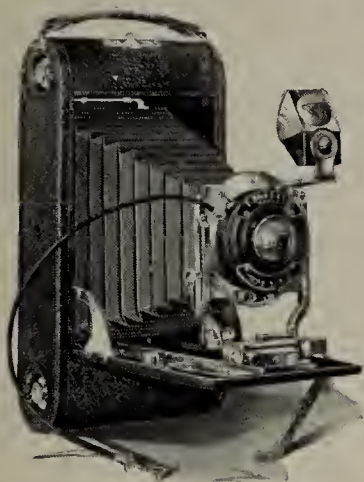
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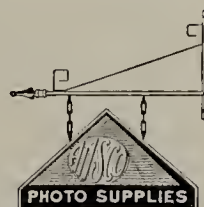
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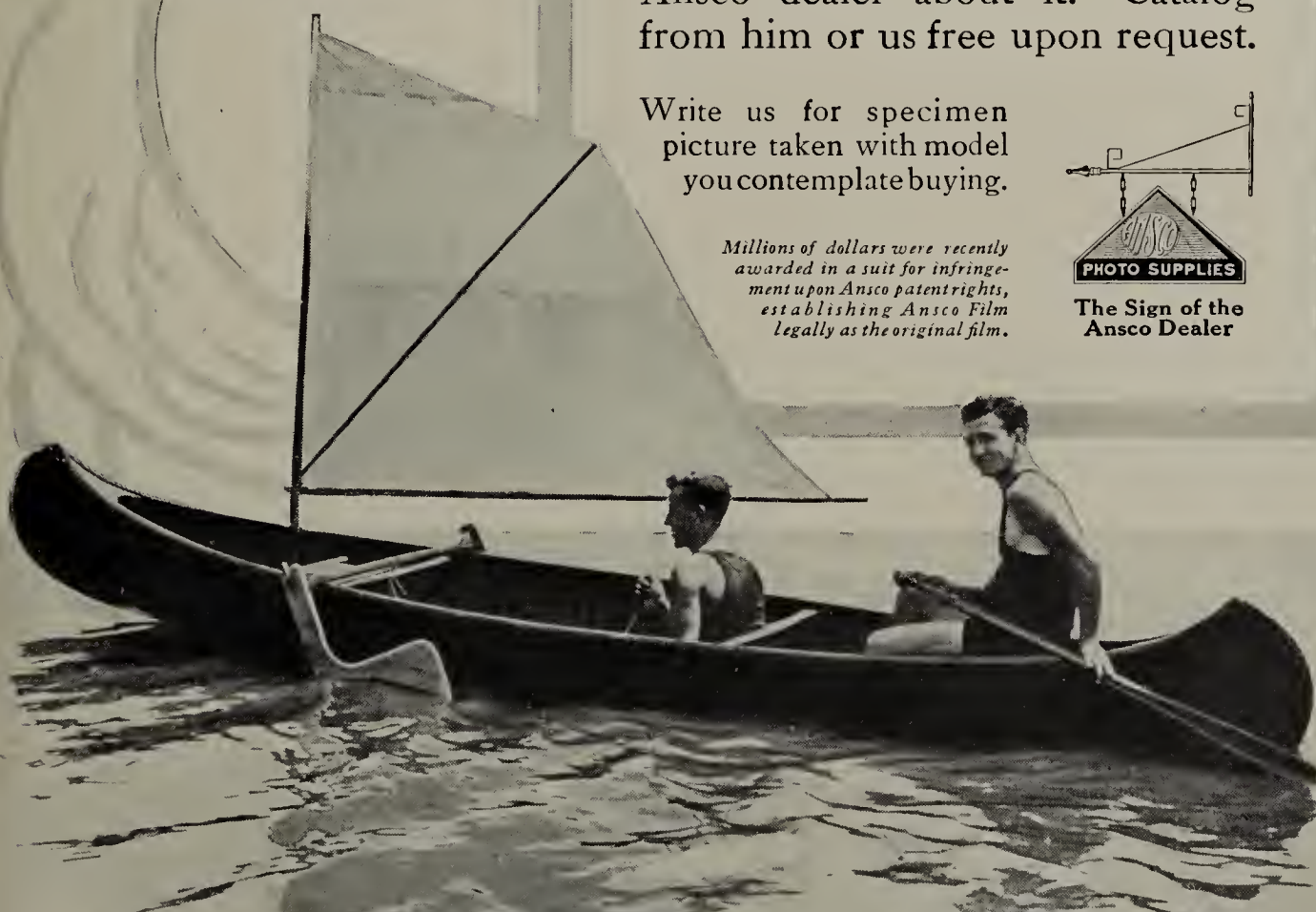
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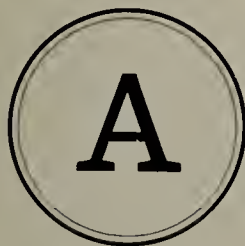
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Volume XLVII

SEPTEMBER, 1915

No. 9

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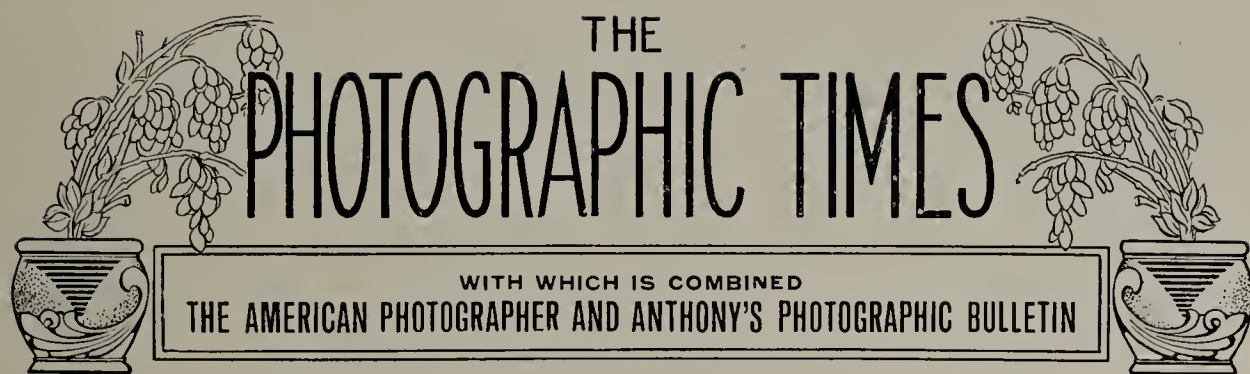
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"OAK OPENINGS"

Wm. Ludlam, Jr.



VOLUME XLVII

SEPTEMBER, 1915

NUMBER 9

THE CAMERA IN TREE LAND

BY WM. LUDLAM, JR.

ONE of the greatest pleasures in the use of the camera is the study and picturing of trees, especially the old gray monarchs of the forest that have outlived their age of usefulness and loom up, stark and dead, like so many monuments of past grandeur.

To all camera enthusiasts the study of the architecture of the forest is well worth consideration. Dividing the subject into three distinct classes, the foundation, the framework and the completed roofed-in structure, furnishes an unending variety of subject matter for pictorial photography. The roots and trunk form the foundation, the limbs and branches the framework, and the foliage the roof covering and trim. To me the strongest picture material lies in the selection of isolated trees such as the gnarled trunk of some old weather-beaten monarch for the main theme of the composition, using the surrounding trees only as a background to set off the principal object. A close attention to some of these old-timers develops the fact that many of them have a per-

sonality all their own peculiar to the species. The white-birch is the decorative tree; the stately beech, the lovers' tree, on which all spooners of all times have carved the pledges of undying affection; the sturdy oak, the veteran of the forest, expresses pride of strength in every rugged line; the once "spreading chestnut" stands a picture of despair, a blighted hope amidst the budding promise of the surrounding forest; the pine, with its eternal covering of dark green, looms up an emblem of life everlasting. And so it goes, each particular tree has its special mark of character and tells a personal story to all who care to study and observe.

Whether trees form the principal object or just the incidentals of a picture their proper handling or spacing either makes or mars the composition. The most interesting time of the year to make trunk and branch studies is either late in the autumn or early in the spring, after the leaves have fallen and before the new ones begin to sprout. The different trunk and branch formations are more apparent and pro-



A FALLEN MONARCH

Wm. Ludlam, Jr.

nounced when devoid of foliage. The lines and characteristics of the bark then stand out in bold relief and form the theme for many interesting points of comparison in structure. Even following up the many vagaries in form of one particular kind of tree will provide material enough for dozens of pointed pictures. Take the chestnut-tree for example. In most states of the U. S. A. the chestnut, as a thing of beauty, is a relic of the past and nothing remains but the white skeleton of bark stripped trunks and wind-wrecked branches. The Department of Agriculture and the park departments of the various states have expended thousands of dollars in trying to preserve these trees from the deadly blight, whatever it is, fungus or insect, but have been powerless to prevent its spread and final victory. Forests which contain almost every other spe-

cies of tree known to our climate and all in a thriving condition, hold nothing but dead chestnuts. The doomed chestnut rubs branches with the live oak and the stately beech which the blight has passed by unharmed, and no one can tell why one was stricken and the others spared. I have made a special study of the old dead chestnuts and have wandered near and far with my camera just for the purpose of making a series of pictures of the last stand of some of these ancient monarchs which are fast disappearing under the final touch of the axe. Some of the happiest memories of my boyhood are connected with the "nutting season" and the chestnut was always the prize of these expeditions. Most boys would rather bring home a quart of chestnuts than a bushel of hickory. Halloween was never complete without the roasting of chestnuts and



THE FOREST POOL

Wm. Ludlam, Jr.



THE SHADOW OF THE PINE

Wm. Ludlam, Jr.

breathlessly watching them pop on the top of the stove. Now there is nothing but a collection of prints to remind me of past pleasures; but in their possession lies a great satisfaction. I have passed the "nutting season" of youth it is true and have fallen somewhat into the sear and yellow leaf with a few silver locks thrown in for good measure; but I have my faithful camera and the fever of photography knows no age limitations. Where I used to tramp the woods for nuts I now roam them for pictures and in the use of my camera have taken on a new garment of youth.

The best and really only plate for tree photography is the double-coated and orthochromatic used with a ray-filter. During the seasons of the year when there is no foliage and a great deal of sky shows, against which the

bare trunks stand out like so many black streaks, this plate is absolutely necessary. I use the Orthonon entirely; but there are many others just as good and each photographer has his own favorite brand. In making a study of some nearby tree focus sharply on the trunk, leaving the more distant trees in the middle-distance and background slightly out-of-focus to obtain an effect of softness. This subdues the harshness of the vertical lines and reduces the extreme contrast against the sky. Always keep a principal object either well to the right or left of the center. In making a picture of the trunk alone it is always best, if possible, to have it incline inwards to give balance to the composition. A tree trunk leaning the other way gives the appearance of falling out of the print. Of course when the picture in-



AN OLD MONARCH

Wm. Ludlam, Jr.



BARK STRIPPED

Wm. Ludlam, Jr.

cludes a number of the larger limbs or branches of their inward and downward curve will offset the outward incline of the trunk and preserve the right balance.

Develop the negative for softness as a hard negative, while possibly good for a record photograph, will never make a real picture. Pyro will produce just the right printing quality. Then if the prints are made on rough paper, of a soft grade, some really beautiful pictures will result.

I have made a special mention of the chestnut because of its personal appeal to me; but the choice of subject is unlimited. The white or silver birch is a great favorite in landscape composition and can be handled with many

beautiful effects especially as a foreground treatment for distant mountain views. The willow gives character to the picturing of small rivers and winding brooks. The lone pine in many instances is the making of the picture in all rugged mountain scenery. Each kind of tree has its place in the landscape, and a careful study will show that each landscape has its own particular species of tree to fit in the composition and form a proper pictorial balance.

A careful study of the tree element in all landscape work, both as principal and secondary object, is the real method of mastering this class of composition, as a close and intelligent observation will prove. Try it out and see.

IRON DEVELOPERS

BY MATTHEW WILSON.

PART ONE.

OWING, as is admittedly the case, partly to the real merits of the numerous organic bodies pertaining to the benzine or aromatic series of compounds that are, at the present day, available for use in the gelatino-bromide process, and partly, too, it is to be feared, to the very multiplicity of these, as well as to their being still, so to speak, technical novelties, it is to be regretted that certain of the developers formerly in constant use for this class of work are to-day discarded by the up-to-date photographer, whilst others of their number now find only a very limited application in his daily practice.

Amongst those of the latter class, the best known and also the most generally serviceable is the iron developer, a combination of proved utility, which, in fact, in one or other of its forms, has been in almost continuous employment for purposes of development from the era of Daguerre down to the date, within recent memory, when it was practically supplanted in popular favor through the agency of its modern rivals. It is true, indeed, that as a developer for bromide-paper prints, as well as a re-agent for the treatment of gelatino-chloride lantern slides, the iron bath possess certain properties which it has been found difficult to replace, and on account of which its services in this connection are still very largely taken advantage of by photographers. Signs, however, are not want-

ing to indicate that, as a necessary result of the inevitable reduction in the cost of the production of the rarer photographic re-agents, the use of the iron developer, even for work of this limited description, will, at some future period, in all probability not very far distant, be likewise discontinued, and that its place will be taken by metol or some similar compound of the aromatic series.

To Robert Hunt, that indefatigable experimenter of the early Victorian days, to whom, it is only justice to own, in no less degree than his more celebrated contemporaries, scientific photography in its primitive stages is under lasting obligations, is usually assigned the credit of having been the first to propose the use of an iron compound for purposes of development.

Hunt's communication on the subject to his fellow photographers seems to have been made in the year 1844, only five years after the introduction of the Daguerrotype process. At this period, it is necessary to recall the fact that Fox Talbot's iodide of silver process, on paper and also on glass, the prototype and parent of all the negative processes afterwards in vogue, had been newly introduced, and was, chiefly on account of its obvious utility as a picture-multiplying device, naturally attracting much attention. As a convenient substitute for the gallic acid developer originally employed in Talbot's processes Hunt proposed the use

of protosulphate of iron, or, as it is nowadays designated, ferrous sulphate. His suggestion was very favorably received by photographers, and a very brief experience of the working of the iron bath was found sufficient to demonstrate its valuable qualities as a developing agent.

A few years later, on the introduction of the collodion process, after various developing re-agents had in turn been experimented with and discarded, the merits of the iron bath were again the subject of investigation, and the results of the inquiry were so satisfactory that ultimately that developer was retained for permanent use in this branch of work, and is, even now, as most readers will be aware, still employed in wet-plate photography in preference to any other.

Coming down to our own day, amongst the numerous changes necessarily brought about in matters of photographic technics through the introduction of the gelatino-bromide process, the rejection *in toto* of the developing re-agents hitherto employed was perhaps the most remarkable and important. In the early days of the new process, to those working under the altered conditions the choice of developers was, in particular, a matter of special difficulty, owing to the circumstance of there being then a great deficiency of re-agents of a character suitable to meet the requirements effected by the far-reaching alterations in the routine of daily practice.

As a matter of fact, indeed, out of the limited number of baths in actual use in the dark-room at this period, only two, when subjected to the requisite tests under the conditions of work-

ing applicable to the dry-plate process, were found suitable for adoption generally as all around developers, on account of their possessing the qualities necessary to answer the requirements of the new state of things; and the re-agents in question, it may be added, have succeeded in retaining a well-deserved place in the list of gelatino-bromide developers still in common use at the present day.

Of the developers here referred to, the one is, of course, that serviceable and still highly popular photographic auxiliary, alkaline pyro. The other as may perhaps be surmised, is the so-called ferrous oxalate developer, a re-agent, as already indicated, formerly held in greater esteem than at present by dry-plate operators, but still occasionally employed nowadays in the dark-room in the absence of more modern substitutes.

If only for the sake of correctness of chemical terminology, it seems desirable here to mention that the name, ferrous oxalate, usually applied to this developer, is something of a misnomer, seeing that the salt in question, being a body practically insoluble in water, is not available for use in its simple state in the process of development. The re-agent actually and invariably employed as a developer under that name is, in reality, a concentrated aqueous solution of neutral potassium oxalate, saturated by the addition of the ferrous salt in the requisite proportions, the latter being readily soluble in this particular menstrum, owing, probably, to the formation of a solution of the double salt potassio-ferrous oxalate, a compound difficult to obtain in the solid state.



THE DUNCE

Elizabeth B. Wotkyns

Another useful developer of the iron series is the ferrous citrate bath. This, though somewhat lacking the vigorous developing properties of potassium ferrous oxalate, and being in consequence not suitable for adoption for all classes of gelatino-bromide work, is sometimes employed as a developer for bromide and gelatino-chloride papers, for which purposes, on account of the delicate pictorial quality of the results produced, it is peculiarly fitted. The bath in question is also frequently utilized for the treatment of gelatino-chloride lantern slides. As a rule, both as regards prints and glass positives, it gives warmer tones than the oxalate bath, and, unlike the latter, the quality of tone obtainable by its means may be varied at will by the admixture of certain alkaline compounds with the iron salt when making up the developing solution.

Of the different baths above mentioned, it does not seem necessary here to say much regarding that commonly employed for negative development in the collodion process, such as that, save for certain special purposes, such as copying maps and diagrams, the cumbersome manipulations of wet-plate photography are in the routine of the modern dark-room practically discarded, and in consequence possess only an historical interest for the average operator. Several formulae for the preparation of this bath have from time to time been proposed, but as yet no very vital modifications either as regards the necessary chemical constituents or the relative proportions thereof have been effected in its constitution as originally devised in the middle of the last century. The following is a standard formula for the stock solution, and gives excellent results:

Ferrous sulphate. 2 ounces avoird.
 Glacial acetic acid. 3 fluid ounces
 Alcohol. 3 fluid ounces
 Water (distilled) 3 pints

This solution becomes gradually darker in color on keeping, but does not noticeably deteriorate with age, provided always that it be carefully preserved from the action of the atmosphere. When it is required for use in development it is advisable to filter the bath, in order to get rid of the insoluble sediment of oxidized matter which is continuously deposited in minute proportions with the lapse of time from the stock solution.

For ferrotypes and glass positives with the collodion process, a modified form of iron developer, of which ferrous nitrate is the principal constituent, is frequently employed in preference to the sulphate bath just described.

Passing to the consideration of re-agents more adapted to the particular necessities of the present era, of the inorganic developers available for use in dry-plate work, the oxalate bath, as already indicated, is by far the most important, and deserves, therefore, particular notice.

Towards the beginning of that comparatively recent period when the perfected gelatino-bromide process, having effectually superseded all its rivals and predecessors in popular esteem, had just succeeded in winning general recognition on its merits as an ideal photographic vehicle, potassio-ferrous oxalate, a re-agent then newly introduced, was adopted and very extensively employed as a developing agent by European operators, and was, indeed, for a time, almost exclusively preferred for this purpose by those of

France and Germany. To-day, notwithstanding that matters are now on a somewhat different footing, owing mainly to the greater variety of developers that are available for use in dry-plate work, it may still be of some service briefly to summarize the chief characteristics of this valuable developing re-agent, directing attention to its specially meritorious features, and at the same time indicating in what respects it is technically defective.

Apart from the strictly technical advantages appertaining to the bath in question as regards developing properties, the fact that the re-agents of which it is composed are amongst the commonest and at the same time the cheapest of photographic chemicals, must, from the standpoint of the professional photographer, at least, be treated as a very important consideration, and one which, now as formerly, will amply justify his selection of this developer in cases of emergency, or in circumstances in which the cost of the necessary working materials is a matter of particular moment. To the operator, more especially, who finds himself, (as not infrequently happens in certain rural districts) unable to procure for the treatment of his plates and films the more modern and higher priced developers presently in vogue, the oxalate bath will prove an invaluable substitute, inasmuch as its component salts, proto-sulphate of iron and neutral potassium oxalate—the latter, if need be, in the simplified form of carbonate of potash and oxalic acid—can always be readily procured, in almost any locality, and at a purely nominal cost, for the preparation of the necessary stock solutions.

(To be continued)



"MARTHA"

C. H. Judson

MAKING PRINTS FROM NATURAL OBJECTS WITHOUT A CAMERA

BY ALFRED J. JARMAN

THE production of photographic prints from natural objects without either lens or camera is not practiced to the extent it might be, especially by the amateur. The simple process to be described is one, when put into practice, in which those practicing it cannot fail. The many who have failed to secure good negatives upon plates or films, and many times only very indifferent results from the negatives they have made, only too often become discouraged, and then in either despair or disgust, get rid of the apparatus and declare they are through with photography. If those who have been disappointed will take heart and try the process given here, they will have reason to be both pleased and gratified with the beautiful and perfect results. In fact photographs made in the following manner (many of them) cannot be made so perfect by any lens and camera, the reason for this will become apparent.

The process is one in which printing out paper is used (P.O.P.) because this method of printing gives the best results. The progress of the photograph can be observed, its right density can be seen, therefore there need be no fear that a dozen good photographs can be produced from twelve sheets of paper. Any kind of printing out paper may be used, either gelatine or collodion, such as solio, aristo, platino, and similar papers. A home-made paper, the formula for the mak-

ing of which will be given here, also will answer well.

The illustrations given here are from prints made upon 4 x 5 solio, the resulting pictures being beautiful in the extreme. The objects used may con-



sist of every kind of leaf from shrub, tree or vegetable. The leaves of flowers, various kinds of moss, small branchlets of the many kinds of ferns, the scales and fins of fish, which should be carefully stretched and dried before use, as well as many kinds of lace.

PREPARING THE OBJECTS FOR PRINTING

The objects to be photographed may be best prepared by taking them singly and placing them between the leaves of a book, spreading each filament out so that it lies flat when the book is closed, and allowed to become

quite dry while the book is kept under a slight pressure. The drying will probably require a week. Assuming that the objects to begin with are small branchlets of ferns, as soon as they are dry, procure a 4 x 5 or 5 x 7 printing frame, place therein a clean glass plate free from scratches and air bubbles, then arrange the fern leaves and place upon these a piece of p.o.p., back this with a soft felt pad, close the frame, then place it out into daylight to print. If the sun is shining so much the better. The time of exposure may be two hours, or three, perhaps four. The reason for this long exposure is to permit the light to pass clean *through* the object and thus produce in a most perfect manner every vein and delicate filament that is *within* the leaf. The light it must be understood, must pass through the various shades of green contained *within* the leaf. It is by this means that the most perfect photograph can be obtained, because the image of the internal part of the leaf is secured, as well as the external surface. For this reason the lens and camera are surpassed. When the print is being made do not be in a hurry to remove it. At first a clean, sharp outline will be produced, with a white image upon a dark background. This, however, is not sufficient; continue the printing until the *inner parts* of the leaf are well marked upon the paper, deeply marked, because the whole print will become lighter through the operations of toning and fixing.

A number of these prints may be made in the course of two or three days, the finishing being carried out at any convenient time.

The illustrations given here consist of prints made from sprigs of fern, and the leaves of the rose bush. Upon examination it will be observed that every vein and every internal structure of these leaves are well marked, producing a picture that cannot be drawn by hand with such accuracy. Although these prints, one and all, are *negatives*, and positive prints may at any time be made from them, yet as they are produced they form an ex-



cellent record well suited for reference at any time.

As soon as the prints are made and ready for finishing they must be well washed in several changes of cold water, in fact until the milkiness of the water ceases, then they must be toned as follows:

THE GOLD TONING BATH

Water.....15 fl. ozs.
Saturated solution of borax. 2 fl. ozs.
Chloride of gold..... 2 grains

Chloride of gold being a very deliquescent, is sold in sealed glass tubes

or bottles containing fifteen grains in each tube. Place the contents of one of these tubes in seven and one-half ounces of distilled or boiled water, in an amber colored bottle, then when making the toning bath one fluid ounce of this solution will contain two grains of the chloride of gold.

The prints being well washed, place them into the toning bath (which may be used as soon as it has been mixed), turn the prints over and over, so that they do not lie too long overlapping one another, or they may become marked, then as soon as the color changes from their red brown color to a purple brown, place them into cold water, give them a second washing, then place them into the fixing bath, made as follows:-

Water. 20 fl. ozs.
Hyposulphite of soda. 3 ozs. av.

As soon as this is dissolved add one dram of solio hardener. The prints are now placed into this and turned over occasionally for ten minutes. They are then washed in running water for half an hour, or placed into fresh water from tray to tray a dozen times. They may then be suspended with a wood clip at one corner to dry, when they may be kept perfectly flat by placing them between the leaves of a book, ready for inspection at any time. Solio hardener may be made by mixing the following with *cold* water:

Bisulphite of soda. $1\frac{1}{4}$ ozs. av.
Chloride of aluminum. $1\frac{1}{2}$ ozs. av.
Water. 6 fl. ozs.

Shake the mixture well until the salts are dissolved.

The preparation of plain paper for printing out is made as follows:

SALTING SOLUTION

Distilled water. 10 fl. ozs.
Common salt. 50 grans.
Chloride of ammonium. 50 "
Gelatine. 1 dram

Warm this, then as soon as the gelatine has dissolved, filter it through a piece of absorbent cotton pressed lightly into the neck of a glass funnel, pour this mixture into a clean tray, and float, *not* soak, the paper face down upon it for three minutes, having marked the paper upon the back with a light pencil mark so as to distinguish the front from the back. After floating, suspend the paper to dry, when it may be kept flat previous to sensitizing between the leaves of a book, face to face. In this way it will keep in good condition for months. When the paper is required for use it must be sensitized upon the following solution:

SENSITIZER FOR PLAIN SALTED PAPER

Distilled water. 11 fl. ozs.
Recrystallized nitrate of
silver. $1\frac{1}{2}$ ozs. av
Citric acid (crystals). . . . 100 grains

As soon as the salts are dissolved, the solution is poured into a clean tray and the paper floated face down upon it for three minutes. It is then lifted at one corner, clipped with a clean wood clip and suspended to dry in the dark; when dry it is ready for use. This sensitized paper will keep in good condition for several weeks, if kept under pressure in a printing frame. The printing is carried out in quite the same way as for solio, and when soaked with paraffine in benzine make excellent negatives to print from. The best paper to use for this work is sold at almost all photographic



READY FOR THE GAME

Floyd Vail

dealers in sheets 18 x 23 for 50 cents per dozen sheets. It is thin and quite free from spots. The toning of this paper, fixing and washing is the same as for the solio prints previously described. The sensitizing solution may be used to the last drop, and the gold toning bath may also be used over and over again by the simple addition of a small quantity of chloride of gold solution, and the concentrated borax solution. The fixing bath should not be used more than twice. Owing to the small cost of this bath it is better to make a fresh one for each batch of prints.

It is advisable in toning to cut the process short of the color required because the finished prints are much richer in color and will not reach the stage of a slatey blue, which is not only objectionable from a color point

of view, but is less effective as an opaque negative color when it comes to be used as a negative for printing from.

The gold toning bath will become discolored, turning to a violet purple, owing to a faint reduction of the gold solution. This, however, is of no consequence; in fact, at this stage, the color of the prints are more brilliant and rich than when a mere toning bath is used. Those who will put these directions into practice will have every reason to be satisfied with the results. Every piece of paper used is capable of producing a good print, the right depth being observable *before* any finishing operations are attempted. This insures no waste of paper, producing gratifying results, with no failures—only complete satisfaction to the practitioner.

ANOTHER METHOD FOR DEVELOPING AND PRINTING
FOR THE AMATEUR

BY JOSEPH MIXSELL

With Five Diagrams

A FEW years ago I decided that I was not getting enough fresh air and bought a camera in the hope that it would take me more into the big outdoors. That was the beginning and as is usual in amateur photography, the end is not yet. After much reading of catalogues I decided that the type using film packs was what I wanted—I liked the convenience, but above all the black paper tab which is pulled out after an exposure and usually thrown away appealed to me from the record standpoint. This was before the coming of the Auto-graphic Back, but even now I would not care to change. They require, perhaps, a little more care in handling than the roll films, but not more than should be given to anything worth doing well. In over five hundred exposures I have lost less than a dozen through being light struck and I have changed packs while on a boat and in bright summer sunlight. And so this tale is based on the film pack, but many of the points may be applied to the use of roll films and plates.

I live in a flat and use the bath room for my dark room and a spare room is my workshop, wherein I store my things and make enlargements which are developed in the bath room. The matter of making the bath room dark was easily taken care of by pulling down the shade, then hanging in front

of it a curtain made of black window shade material mounted on a stick at each end. One stick is hung over two nails in the top of the window casing and the other—at the bottom of the curtain—holds it taut. This is easily put up and taken down and takes up little room when not in use, since it is rolled up on the sticks. If any daylight work is done a hole may be cut in the curtain and post-office paper pasted over it to make the light safe to work in.

Then came the question of a suitable bench or table on which to work. Our flat, the same as most of them, has a stationary washstand in the bath room, oval in shape and having no surface on which to place a tray so as not to fall off, but by the use of a board of convenient size and a screw clamp such as carpenters use, it was made to serve as a very good bench with running water directly in front of you. The board is laid on top of the stand and the clamp is hooked over the board with the screw underneath the stand tightened up enough to hold the board in place. I have recently acquired a developing tank and use the board arrangement only when making prints.

In order to get the full value of the film pack it is necessary to match each negative with the black paper tab to which it was originally attached and on which should be written full data

ENLARGEMENT

Size..... From.....
 Paper.....
 Developer.....
 Lens.....
 Stop.....Time.....Easel Setting.....
 Apparatus.....

Fig. 1

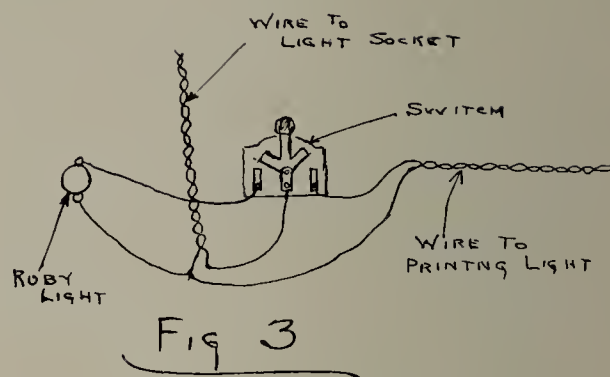
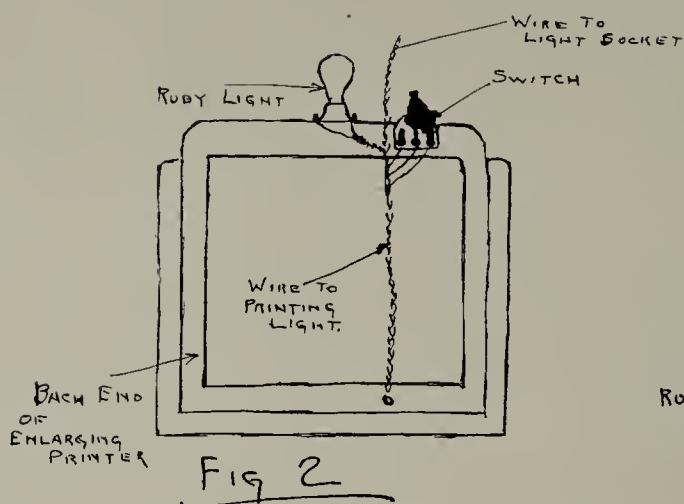
concerning that particular exposure. After trying several methods I concluded that punching the same number of holes in the film as the number of the tab to which it was attached was the best means of securing the end in view. After a very little practice this can be done with little or no fingering of the film surface and the holes which are punched with a pin through the strip or silk and the film under it where it is attached to the paper backing do absolutely no harm and do make the proper matching an easy matter.

I found that in washing films in running water they became badly scratched from contact with the corners and edges of other films. To overcome this I adopted the method of washing which consists of suspending the films in a quantity of water and allowing them to soak for an hour or two during which the hypo. is eliminated through its specific gravity being greater than water. Suspending each film separately by means of a cork did not cure the difficulty entirely since air currents cause them to float together, and at the same time that method meant many trips from the bath room to the place where they are hung to dry. All trouble in washing and drying has been gotten over by the use of a soft pine board, about four inches wide and a little less in length than the bath tub, which is floated on

the water in the tub. To the edges of this board are fastened, with a pin each, the films being washed and after sufficient time the board, with the films attached, is lifted from the water and being supported by its ends on the back of two chairs forms an ideal drying rack, besides a very efficient help in washing.

After the negatives are dry they are given the consecutive numbers of the filing envelopes. To those people who are using transparent envelopes for film filing, a word of warning; look over all your films frequently to make sure that none are stuck to the inside of the envelope where it is glued together. I have had spoiled a number of valuable negatives through this, the reason for it I do not know since they were kept in a perfectly dry place. I have discarded the transparent envelope in favor of those made of manila paper, on the back of which I attach a print from the negative it contains. I find this even better than the first method since good looking negatives are not always good printers. On the front of the envelope, in the place for it, a record of the print is made so that it may be duplicated at any time. The form printed on the envelope is supplemented by a form (see fig. 1) which I devised in order to make a record of the most desirable enlargements made from the negative or any part of it. I have a rubber stamp of this form which is used on all new envelopes purchased. The headings explain themselves except, perhaps, "Easel Setting," which is covered later.

A piece of wire bent into a loop and fastened to the handle of a large



dish pan so as to extend over the edge into the pan makes a very good print washer in connection with a piece of rubber tubing attached to the bath tub faucet and inserted in the wire loop so as to direct the water against the side of the pan, thereby giving it a rotary motion. The pan is placed in the bath tub to carry off the water.

I own a Radion Enlarging Printer No. 1, which is an inexpensive outfit for making enlargements, using your own camera if it is equipped with a removable back or ground glass, which may be removed. This is well made, does good work, and works not too rapidly—the light source being an incandescent electric bulb, attached to the ordinary house fixture, in a parabolic reflector—about thirty seconds being required to enlarge to two diameters on bromide paper from a normal negative with stop f16. There is one feature which might be corrected and that is that the negative is apt to get too warm for safety, but this, however, is easily taken care of by the use of ordinary care in not allowing the printing light to burn too long at one time. The No. 1 and smaller outfits are not equipped with a separate switch to turn off and on the printing

light necessitating much tiresome getting up from your seat to control the light. Fig. 2 shows the back end of my Radion with a switch and wiring so arranged that from my seat by the table I can conveniently switch the current to the printing light or to the ruby globe on top of the outfit for general illumination in which it is safe to handle bromide paper. Fig. 3 indicates the proper wire connections to be made. The switch is a single pole double throw known as a Trumbull Battery Switch. This equipment has proved to be of very great convenience and while the position of the separate units might have to be changed it can be adopted to any enlarging outfit using electric light.

The adjustable bed of my enlarger is telescoping, having three sliding sections, one inside the other, to the end of the inside section being fixed two metal uprights over which the easel board is slid and drawn to or from the lens to alter the size of the image on it. To the end that my system of records might be complete it was necessary to show the distance between the lens and the easel for a certain size enlargement and in order to save time and labor in arriving at this entry

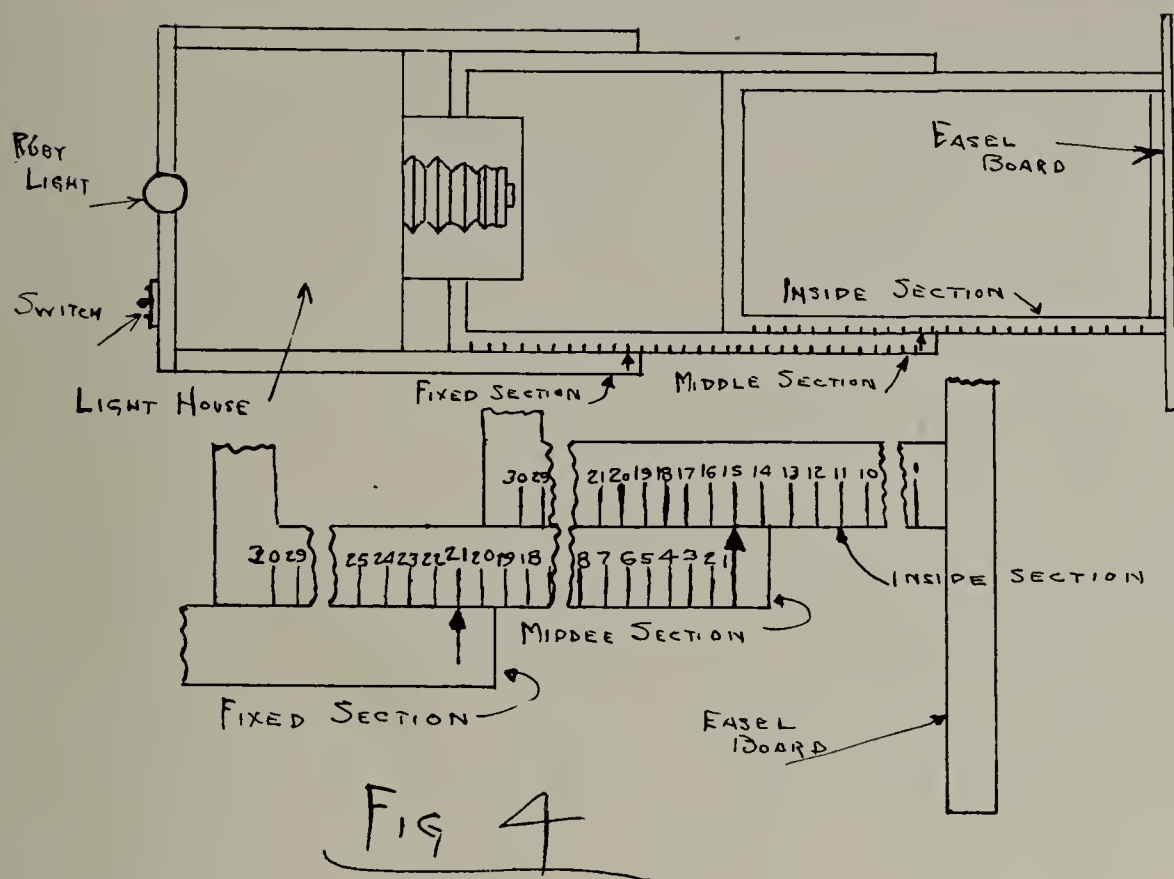
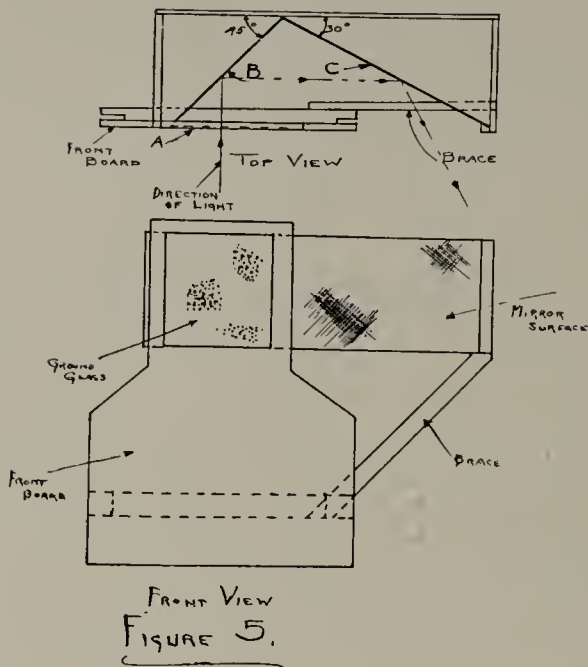


Fig 4

I made two scales which are glued one to the middle section and one to the inside section of the telescoping bed. Reference to Fig. 4 clearly explains this—the setting shown being indicated as $15/21$ under the heading “Easel Setting” referred to in connection with negative filing earlier in this article. The numerator of this fraction is the number opposite the arrow on the middle scale while the denominator is the number on the middle scale opposite the arrow on the fixed section of the bed. It will be seen that on changing the position of the easel the arrows will point to different numbers and when the desired size of picture is secured the fraction then indicated will be the “Easel Setting” for that size picture from that negative. At any time the easel may be set according to that index and the desired size picture be secured without loss of time in adjusting the easel. The

numbers on my scales indicate half inches, which was found to be the most convenient. These scales may be used on any enlarging outfit having a sliding means of adjustment of the easel, but the length and form may have to be changed according to the construction of the outfit.

Often, in enlarging, it is desirable to focus accurately on ground glass before exposing, but this is inconvenient because of the focusing adjustment being some distance from the ground glass behind which you must be in order to observe the accuracy of the adjustment. By means of a combination of mirrors mounted so as to be interchangeable with the easel board this focusing is easily and conveniently done from your seat at the table. This device consists of a piece of ground glass behind which are two mirrors fixed at such angles as to reflect the image on the glass in a direc-



tion for the operator to conveniently observe the accuracy of focus. Fig. 5 shows this arrangement and the angles of the mirrors necessary to reflect the image at an angle of thirty degrees from the beam striking the ground glass, the ground surface of which must of course be in the same position as the face of the easel board were

the easel substituted for the focusing device. In this attachment I have made, the ground glass, A, is three inches square, mirror B is three inches wide and four and one-eighth inches long and mirror C is three inches wide and six inches long, and the ground glass is so placed that the center of it is the same distance from the bed as the lens. This focusing device can easily be constructed for use on any enlarging outfit where the easel is removable. It has proved to be very handy and well worth the few hours and the ten cents for the mirrors, spent in making it. In using the focusing device the easel is set to the proper distance for the size desired and approximate focus is secured in the ordinary way. The easel is then removed and the focusing attachment put in its place and the focus accurately adjusted, by looking in the mirror, after which the attachment is replaced by the easel and the exposure made.



A STORMY SUNSET

A. H. Anderson



A FAIR BREEZE

Wm. S. Davis

HARBOR SUBJECTS

BY WM. S. DAVIS

TO the lover of marine views the numerous harbors along the coast and larger bodies of inland waters present a most fascinating array of subjects for pictorial work, and owing to the nature of the material the compositions are constantly changing, consequently one's interest is continually stirred by some fresh combination, the chances of repetition being small, even when active work is limited to a single locality for a long time.

While the general types of subjects naturally vary according to the locality, it would be difficult to make a choice as to relative pictorial value. Much of interest is available in the quaint towns and fishing villages scattered all along our coast, and it may be said in passing that the op-

portunities are not confined to a few famous localities which have been painted and photographed for years; for, without reflecting in the least upon their merits, there are plenty of other places whose names are practically unknown outside of shipping circles well worthy of attention by the pictorial worker.

In the smaller towns one not only has a chance of securing vessels at anchor or under sail, together with charming cloud effects, but along shore may be found boat landings, fish shanties, ship-yards with vessels undergoing repairs or new ones under construction, and frequently inlets used as snug harbors for small craft, all of which afford a wide choice of material.

On the other hand there are other



IN PORT

Wm. S. Davis

subjects only met with around the larger seaports, which present a varied panorama of commercial activity, with ocean-going ships constantly passing in and out, while busy tugs, barges, lighters and ferries all add their share to the interest of the scene. The latter by the way often afford a very good means of obtaining interesting views of shipping, and in a city like New York, where so many portions of the harbor and rivers can be reached by them, it is possible to secure not only different classes of vessels under way but also practically any choice of background desired along the water-front. When a city presents an attractive sky-line many good studies can be made looking shoreward with ships lying at the piers, and too, the pictorial possibilities of the bridges must not be

forgotten, as they may well be used either for the leading feature or as a setting for some vista.

As the charm of marine views depends so much upon atmospheric quality, the most favorable time for working is when clouds or haze soften the tone of distant parts, and the distribution of light and shadow (particularly in summer) is usually more pleasing during the early morning and mid-afternoon hours, not only because the shadows are longer, but also owing to a general quality of the enveloping air, much easier felt than described, which produces a marked difference in the results obtained.

A slight change in the direction from which the light falls alters the tonal arrangement of any subject so much that it is of the greatest value when one is trying to produce a pic-



BROOKLYN BRIDGE—EARLY MORNING

Wm. S. Davis

ture from rapidly shifting elements to be able to anticipate a particular combination in time to take advantage of it at the proper moment without hesitation. As an aid in this direction the best way is to form the habit of constantly analyzing pleasing effects at all times with a view to discovering the particular lighting or tone arrangement responsible for them. As all the objects which go to form a composition must make spots of varying tone values in the pattern, it is useful to know in advance whether in a given lighting a certain part will tell lighter or darker compared with surrounding portions of the scene. For instance, if a white winged yacht is snapped against a background of milky white sky, such as is often seen at noontime on a hot summer's day,

the result will be flat and uninteresting, owing to the sky and sails being of practically the same tone value, but take the same subject in sunshine when the sky is a deep blue, or billowy clouds are scudding by, and we have an effective background for the white sails, while the entire picture can be made to suggest the sparkle and natural brilliancy of the scene.

If, on the other hand the subject is some old coasting or fishing vessel with grey weather-stained sails, or a freighter leaving a trail of smoke in her wake, a better tone arrangement is frequently presented when looking more or less against the light, making the craft appear darker in tone, and allowing the high lights to come in water or sky, only beware of



SUNSHINE AND CLOUD

Wm. S. Davis

making the dark masses quite black in the finished picture. Rather, allow extra length of exposure when working against the light. The foregoing are simply a few points mentioned more for their suggestiveness than as set rules, for as someone has well said, every picture presents some fresh problem, and in consequence the treatment necessary must largely rest with each individual, guided by experience and good taste.

When photographing vessels at fairly close range it is desirable to work from a view-point not higher than the deck of the one being taken, as by observance of this point more pleasing perspective will be secured, and the true size better rendered.

If, as is often the case when working around wharves, it is desired to secure a bow or stern view of a vessel on

a large scale in the picture, one should guard against violent perspective in the bowsprit or boom, which will occur if the lens is too near the subject.

Working from a steamer in motion, it is safer to select a position away from the immediate vicinity of the engines, as their vibration is liable to cause enough blur in the negative to spoil fine definition. Furthermore the instrument should be held in the hands rather than attempt to steady it against a railing or deck house.

As to the outfit. While any camera may answer along the shore, some easily manipulated type of very moderate size is by all means most practical for use afloat. I now use a $3\frac{1}{4} \times 4\frac{1}{4}$ folding plate camera, fitted with anastigmat lens of six inch focus, for such work, and find it very conven-

ient, but of course the particular style of apparatus is largely a question of personal taste, and fine results are obtainable with some of the pocket outfits when equipped with high grade lenses, which allow high magnification in making enlargements from the small negatives. As however light conditions are usually favorable on or near the water very large apertures are not essential, consequently if one is satisfied with a moderate sized enlargement from a negative excellent results may be obtained with cheaper lenses, like the R. R. and Single Achromatic.

On account of the extra amount of light, both direct and reflected, the lens should be provided with some sort of a shade to guard against a form of halation caused by bright light striking the front of the lens.

Color sensitive plates of the double coated or backed variety are best, unless one prefers to use films, and when

the additional exposure can be given, a ray-filter of medium depth (say 3x) will greatly assist in retaining relative tone and color values, but if this cannot be used some brand of "non-filter" or "anti-screen" plates make a fair substitute.

Exposures alongshore would be approximately one-half those required for objects of similar tone inland under the same conditions of light, and for shipping in the open, say not nearer than fifty yards from the camera, $1/50$ to $1/100$ second with stop F.8 would prove about right in summer from 7 to 9 A. M. and 3 to 5 P. M. If the work is done nearer noon in clear light a somewhat smaller stop might be used.

Care must be taken when strong contrasts are in evidence, not to accentuate them by over-developing the negative, for black, opaque shadows and chalky highlights destroy all feeling of atmosphere in a picture.



THREE CRACKS

From left to right—Campbell, Meredith, Higgens

W. I. L. A.

SOME MOTION PICTURE ENTERTAINMENTS AS A SOURCE OF PLEASURE AND PROFIT

BY ERNEST A. DENCH

WHEN it comes down to the actual producing of photoplays, they cost more to put on than ordinary photographs. On the other hand, however, there are sixteen pictures to each foot of film, so it means that if you produce a full reel you have no fewer than sixteen thousand separate photographs.

There are several ways and means of extracting both pleasure and profit from the hobby or business, according to which angle you regard it from, such as by getting the local photoplay theatres to exhibit your product and pay you a small fee. If the negative is sufficiently widespread in appeal and interest you could probably get it purchased by one of the regular film concerns.

But now the motion picture has entered the home, and an excellent opportunity thus presents itself to specialize in home entertainments. I will now proceed to lay out some methods for your guidance. After you have given much devotion to motion picture photography, you will, naturally, have gotten together a collection of films. These will probably embrace several classes of educationals, local topicals and short comedies and dramas staged locally and acted by amateur actors whose services you have acquired.

You will, first of all, need a projection machine, if you do not happen to already possess one, and there are two

kinds of these on the market. The miniature projector has a shorter throw, but points in its favor are that it is easier to manipulate and does not consume so much current. It also only costs one hundred dollars, whereas the price of the standard machine is three times as much.

I cannot dismiss the matter without offering the advice that it is one for you personally to decide, though if you intend confining yourself to exhibitions in ordinary homes, the miniature machine will suit just as well. In the case of large halls and so forth, however, the large machine stands supreme.

The authorities will not permit you to show films unless you project same under a "safety first" roof. In the catalog of the theatre equipment concerns you will find a film booth listed at fifty dollars. It is four feet wide, five feet long and seven feet high. This metal enclosure is just the very thing for your purpose, for it is portable and only twenty minutes is occupied in erecting it or pulling it down after a show.

We now approach the problem of a satisfactory screen. The size of this will depend on the room itself, so it is advisable to purchase two different sizes. One about three feet by three feet wide might about fit in and another several times the size for where big rooms are available. The ma-

terial, I understand, costs anything from ninety cents to three dollars and seventy-five cents per square yard.

It is also possible to hold exhibitions at garden parties and the like, for there is a screen which gives as good results by day as by night.

When you have everything in readiness for your operations, the time is ripe to write all your friends and acquaintances soliciting their support. Motion picture home entertainments are quite a new thing and offer a refreshing change from the usual run of social functions.

Your own film library will fit in like a glove and you will not feel guilty of competing with the regular photoplay theatres in your neighborhood. In this way you will be able to retain the friendliness of the exhibitors and continue to supply their own special needs.

You have, of course, the option of fixing your own territory, but I would recommend you not going beyond a radius of several miles. This will se-

cure for your films a more warmer reception because the spectators will evince special interest in knowing that they are local efforts produced by local talent, the pictures also being set amid scenes and things familiar to them.

If you desire further clients, an advertisement in the local newspapers, setting forth the charms of a private motion picture entertainment for social gatherings, at clubs, societies, and lodges, will no doubt achieve the results you strive for.

The usual fee to charge is ten dollars for an hour's entertainment, comprising about three reels, and five dollars for each additional hour. It is advisable to vary the films as much as possible, for it is variety on which the film industry has been built up. You can, for example, have a one reel educational and a drama and comedy each of the same length.

There are brilliant possibilities in this field for the cinematographer who is enterprising enough to grasp them.



A CLOSE FINISH

W. I. L. A.

TIME AND TEMPERATURE DEVELOPMENT WITH SOME NEW TABLES

BY F. C. LAMBERT, M.A., F.R.P.S.

THOSE who are more or less constantly at the developing sink soon acquire a kind of instinct or rapid judgment which enables them to decide after a mere momentary glance if the plate has acquired the required average density, etc. But the occasional worker is often greatly uncertain as to when to stop development. The beginner is still less able to form any judgment in the matter.

In general it is an advantage for any kind of printing—including the making of lantern slides—to get the majority of one's negatives fairly uniform as regards those parts which are to print the lighter tones, and at the same time preserve the gradations. The experience of many—probably the majority of occasional workers, tends to show that a better average of resulting negatives is obtained by some form of timing rather than eye estimating of development.

Again there is the not inconsiderable advantage in the time method due to the absence of any need for exposing the plate to dark room light, safe or unsafe—beyond what may be required for the transfer of the plates from the holders to the developing dish or tank. This may be reduced to zero, after a little practice with waste negatives, which enables one to do this easily and certainly in complete darkness.

Mr. Watkins in his excellent little

manual gives the following table of temperature coefficients:

Pyro soda—without bromide.....	1.5
with bromide	1.9
Kodak powders	1.9
Rodinal Azol. Victol. Certenal...	1.9
Metol-Quinol.	1.9
Glycin.	2.3
Rytol.	2.2
Hydrokinone.	2.25

I might remind the reader that the temperature coefficients tell us the relative total time required for developing a plate for the same density at two different temperatures separated by 10 degrees C or 18 degrees F. For example, suppose it takes $7\frac{1}{2}$ minutes at 50 degrees F. and 5 minutes at 68 degrees F., the temperature coefficient would be $7\frac{1}{2}$ divided by 5, or $1\frac{1}{2}$, or 1.5, as in the case with pyro soda without bromide.

But note that we could not take the midway point between 50 and 60 degrees F. and say the time would be midway between 5 and $7\frac{1}{2}$ minutes. The time growth (or decrease) is governed by the compound interest law. For instance, suppose a fall of 1 degree increased the time by 2 per cent. Then the fall for 2 degrees would be $102/100$ multiplied by $102/100$, for three degrees it would be $102/100$ multiplied by itself three times. So that for 13 degrees fall the increase would be $102/100$ multiplied by itself 18 times, and so on.

Whether we take a difference of 13

degrees or 20 degrees it matters little in actual practice, and for ease of calculation I have based the accompanying table on 20 degrees F. difference, and tabulated only for steps of 5 degrees between 50 degrees and 70 degrees F., as most of our work is done within these limits.

The table includes three temperature coefficients, viz., 1.5, 1.9, and 2.25. This list is taken to represent all the three last items on Mr. Watkins' list, viz., Glycin, Rytol, and Quinol.

The temperatures given in the first column only show steps of 5 degrees F. Anything intermediate can be approximated in practice; thus 54 or 63 might be taken as a little longer than 65; or 62 or 61 a little shorter than 60 degrees.

T.C. stands for temperature coefficient of course. The figures under this heading show the *relative* times of development. Thus in the case of Pyro soda T.C. 1.5 the relative times for 60 degrees and 55 degrees are as 1.22 to 1.35 or 122 to 135. But for T.C. 1.9 the relative times are as 137 to 161. So that if the worker finds that his own pet Pyro soda formula gives him what he wants at 65 degrees in 5 minutes and wants to know what this is equivalent to at 55 degrees F. he has to do a rule of three sum. Thus, as 65 degrees or 1.1 is to 55 degrees or 1.35 so is 5 minutes to the time required, or to put matters in the form of a rule multiply the old time known by the *new* ratio number and divide by the old ratio number. In the above case multiply 5 by 135 and divide by 110 which gives us 6.13 or 6 minutes 7 seconds, or "thereabouts."

TABLE SHOWING PROPORTIONAL TIMES, ETC., FOR DIFFERENT TEMPERATURE COEFFICIENTS.

F°	1.5		1.9		2.25	
	T.C.	D.	T.C.	D.	T.C.	D.
		m.s.		m.s.		m.s.
70	1.	5-52	1.	5-20	1.	5-18
65	1.1	6-30	1.17	6-30	1.22	6-30
60	1.22	7-12	1.37	7-37	1.5	7-56
55	1.35	7-57	1.61	8-56	1.84	9-46
50	1.5	8-48	1.9	10-30	2.25	11-54

Now in the right hand column of each main division are a number of times in minutes and seconds and it will be noted that in each case the time is 6½ minutes for 65 degrees. The reason of this is that somehow or other with some workers 6½ minutes has become a kind of standard time for this temperature. Personally I attach no importance whatever to this beyond the case of my pyro soda formula which I have so adjusted to give me a somewhat bright negative in these times. In the first instance I worked out this table and formula for use in connection with photomicrography where usually one wants a fairly bright clean negative from which one can get bright lantern slides. With this formula (given below) probably most workers arriving at a negative for contact portrait printing or landscape enlarging would find that 5 minutes at 65 would be preferable. But this is a matter which each worker must by one or two careful trials find out for himself. Once he gets the right time for his own pet formula at any observed temperature then the above rule of three and time ratio numbers in the table enables him to complete the time table for other temperatures. One last word. On paper it is of course quite desirable and ideal always to develop at a fixed tem-



RAMBLER ROSES

Chas. H. Newman

perature. In practice most of us find it far from easy to keep dishes, bottles, and all else at say 65 when everything in the dark room is say at 55. Instead of bothering about warming solutions, dishes, and so forth, it is really quicker and better to take things as they are and alter the time of development.

My pyro formula is:

A

Pyro.....	40 gr.
Potas melabisulphite.....	40 gr.
Soda sulphite (cry).....	350 gr.
Water to.....	10 oz.

B

Soda carbonate (cry).....	1 oz.
Water to.....	10 oz.

Use equal parts of A and B.

"AS THE EYE SEES IT"

BY WILLIAM H. BLACAR

WRITERS on things photographic are apt to use the expression "As the eye sees it" and I have been thinking lately as to how the eye does see it, and I find that my ideas on the question were not as sharp as F/64 or even soft focus, but were decidedly fuzzy. Of course the first thing is that it is not my eye that sees an object but it is my pair of eyes that see it. That is readily understood.

On looking out on a landscape I find that my eyes see a small portion of the scene directly before me quite plainly and I see that part with both eyes, but the part of the scene on the extreme right is seen only with the right eye, and that on the extreme left only with the left eye, so that speaking very unscientifically, it is as if one picture is seen with one eye and another picture with the other eye and another picture with both and they were all combined into a kind of panoramic picture.

As to how much is seen I find that my eyes take in sideways a view of about 180°. Some wide angle that. Try it, and I also see almost down to my feet, but as to the upper part of the scene it seems that my eye lids and brow cut off some of the view.

It seems hardly possible that I use my eyes at that extreme wide angle all the time and actually enjoy it, too. In looking at a landscape I find that I need this wide angle to get all the

beauty and perspective of the scene and if I close one eye I lose a large part of the beauty. In looking at distant hills I find that I want the view clear almost to my feet and if in holding my hands so as to block off part of it some of the effect is lost and the same also if I hold my hands so as to shut off the extreme ends of the scene.

A big bare field in the foreground which seems to ruin a photograph is found in nature to be a thing of beauty and I would not miss any of it. I like it as well as if there were prominent objects in the foreground.

I have come to have great sympathy for the horse who is obliged to wear blinders and get a narrow angle view of life.

Some liken the action of the two eyes to the action of the two lenses of the stereoscopic camera, but there is considerable difference, for each lens of the camera sees all of the object, only from different viewpoints, and so gives the stereoscopic effect not only in the center of the picture but also at the extreme left and right, whereas if they acted as the eyes do they would give the stereoscopic effect only in the central parts, for the left lens would not see the extreme right of the scene and the right lens would not see the extreme left.

Our eyes are stereoscopic only for the central part of the field.

As to how much I see plainly at one time I find that it is very little. I

look across the room at an object a few inches to one side of the clock and I cannot read the time on the dial. If I look at a house at a short distance away I cannot see the house adjoining so as to give it any sort of a description. I look at a window in the first house and cannot tell whether the windows in the adjoining one are square or round. Cannot even see the panes of glass or the sash and frame. Looking at a landscape I see a very small part in the center plainly and the rest of it is fuzzier than the rankest fuzzy-graph made by an insane photographer. And I like it. Also, I am not looking at the scene with dead eyes but with eyes that are very much alive and they are at rest hardly an instant but are constantly on the move looking from one object to another and also constantly changing the focus if needed. Would anything look beautiful to me if my eyes were not constantly roving over every part of it?

If I look at a picture of a landscape I find that my eyes naturally rove all over the picture the same as they do in looking at the nature scene, and enjoy finding new beauties even out to the edges as well as I enjoy looking at the main object of the picture.

As for the distinctness with which my eyes see I find that they are in a continual fight for $F/64$ and are never satisfied with anything else.

Whether I look at things near or far, a picture or a natural scene my eyes instantly focus their sharpest. My eyes being my optic it is impossible for them to focus on distant objects, and years before I ever used a camera I hied to an oculist and got glasses to satisfy that craving of my

eyes for $F/64$ and it opened up to me a new and beautiful world which up to that time I had never seen.

If I point my camera at a man fifty feet away I get a picture of him one inch high and a man 100 feet away is one-half inch high, but if I look at these two men my eyes seem to see them as just about the same bigness, and a four story house at half a mile seems about as big as if seen at half that distance, but I suppose that the picture on the retina of my eyes is as we see it with the camera.

I am just beginning to wonder as to how the eye does see it.

I look at a bright point of light and there seems to be as the eye sees it, rays of colored light spreading out from each point and coming towards me. Every particle of the rays seem on the move towards me but if I put my camera up and focus the point on the ground glass and then look at the ground glass slightly from one side I find that the image is not as the eye seems to see it but it is an image the exact shape of the light but there are none of the bright moving rays that appeared to the eye.

I see a window with the sun shining on it and it appears to my eyes a great dazzling light with the rays of light all coming towards me and the shape of the window as far as I can tell in very much like a circle but if I focus on the ground glass I see there a picture of the window in its proper shape and with its sash and panes of glass as I know there are no beautiful rays of light proceeding from it toward the image.

Why can't we take the sparkle of snow or water "as the eye sees it" is

a question that is often asked and a feat that is often attempted, and is always a failure. To see the sun shining on a window of a house at a distance and the window does not appear square to me but more nearly round with the cone of bright rays apparently streaming out from it toward me and every particle of the rays seem in motion and the picture of it on the ground glass simply shows a regular shaped window and very white. Not the slightest trace of sparkle as I can see. The same also with a waterfall. The innumerable points of light that sparkle are seemingly sending out cones of bright streamers to my eye but on the ground glass we see only patches of light of various shapes.

In looking at the picture on the ground glass, look at the glass from slightly to one side so that you will simply see the picture, for if the eye is right behind the glass the rays from the light point will come *through* the glass to the eye and so spoil the experiment.

I find that there is hardly anything that I see that has not some *sparkle*

and that the beauty is greatly due to that same sparkle. The "great white way" without the sparkle would be as tame as a house cat.

"And the sheen on their spears
Was like the stars on the sea,
When the blue waves roll nightly
On deep Galilee."

But the camera could not find the "sheen on the spears" or the brightness of the stars on the sea, for that is all furnished by the eye.

"I see the waves upon the shore,
Like light dissolved in star-showers
thrown."

but the star showers are tame to the camera.

"All at once in air,
Flashed all their sabres bare."

But it is the eye that sees the brightness of the flashing; the camera sees it not.

"I marked the lofty beacon light,
Stream from the church tower, red
and high."

Streams; that's just how it appears to the eye.



A CHAT ABOUT FINDERS

AS soon as cameras came to be held in the hand, and the exposure made without an examination of the image on the ground glass, it became obvious that some method would have to be employed which would enable the accurate inclusion of the subject to be assured. Quite a variety of devices were tried, and though many of these are not now in common use, they are all available in certain cases. We may classify finders under three headings: *first*, those which indicate the image and its definition—that is, finders which focus in unison with the camera; *second*, those which merely show an image corresponding in angle of view with the camera image; *third*, those which indicate the central object or the center of the view only. Of these types those included under the second heading are by far the most common.

Taking class one first, we have two well-marked forms, the *reflex* and the *twin lens* camera. Both show an image the same size as the negative will be, and in both cases can focussing be done with perfect accuracy up to the moment of exposure. Herein lie the advantages of these two forms, that, given good eyesight and a proper arrangement of the focussing hood, no one need ever have an out-of-focus picture or one which includes less than the desired and arranged for quantity of subjects. Focussing and selection are both as certain as with a stand camera with its ground glass screen and focussing cloth. There are, how-

ever, one or two points which must be mentioned if the best results are to be obtained with these forms, and the first is that accuracy of workmanship in the construction of the camera is, in either case, essential. For example, in the twin lens camera we have practically two cameras, one above the other, but the upper one is fitted with a mirror, so that the image is reflected upwards on to the horizontal ground-glass focussing screen. This mirror and the screen need accurate adjustment, in order that the focussed image and that thrown by the other lens on to the plate at the moment of exposure may be absolutely identical in size and definition. The two lenses require to be accurately paired, and it is a good plan to have the iris diaphragms linked up so that the focussing lens may be stopped down when the working lens is stopped down. The exact effect is then seen, and if the distance is required in softened definition this may be done with certainty. The twin lens instrument, on account of its bulkiness, has been somewhat superseded by the reflex in recent years, though the cost of the pair of lenses is usually more than made up by the elaborate mechanism of the reflex camera. It has, in fact, been thought that a good reflex could not be placed on the market at a low price, and it is only within the last year or so that any reflex instrument of reliability and first-class workmanship has been available at a popular price.

The comfort of working with either

form of camera largely depends on the focussing hood which is erected over the horizontal ground glass screen. This should be fairly long and close fitting round the eyes and over the nose, so that light from above is excluded from the screen when focussing is being proceeded with. Theoretically it would be better if each hood were made for its own user, for the length could then be adjusted to the length of sight, short-sighted people needing a short hood, and so on. This method would be expensive, and would have other disadvantages as well, and the difficulty can be got over quite well by the introduction of a simple pair of eyeglasses in the top of the hood, coming quite near to the eyes. The glasses must be adjusted for the user, of course.

The second type of finder is represented by two forms, the *ground glass* or real image finder, and the *brilliant* finder, which gives what is called a virtual image. The latter is by far the most common. It is easier to see the image in a brilliant finder than in a ground glass one, and the majority of people prefer ease of working to accuracy. The brilliant finder, especially in its cheaper forms, is very likely to give inaccurate results, unless it is viewed from a point exactly above it. The errors are not, perhaps, very serious, except in cases where there is very little margin for error—that is, in cases where the view required goes very near to the edges of the film or plate. It is sometimes charged against the brilliant finder that it gives rise to under-exposure, that the brightness of the image is such that one is led to think the light is better than it really

is. Of course, if an exposure meter is used there is little likelihood of this mistake occurring.

With both ground glass and brilliant finders the hooding of the finder is a great advantage. We remember certain of the early box-form hand-cameras were thought well of because the finders were so deeply sunk. In some instances the finder was two or three inches down, and this sinking ensured the adequate shading of the image. The modern tendency towards the extreme of portability prevents anything of this kind being done with the smaller and lighter instruments, but in the case of box-form cameras there would appear to be little reason why finders should not be so sunk. The only objection that could be brought against the method is that the deep sinking allows an accumulation of dust, which is difficult to get out.

Both these forms of finder should be as large as convenient. It is always easier to see the image in a finder one and a half inches square than in a tiny little thing about three-eighths of an inch. Of course, we are not suggesting a large finder on a vest-pocket camera, but many instruments of quarter-plate size are capable of carrying much larger finders, and would, if so fitted, give improved results.

Many of the better makes of camera have the finders specially marked for the lens in use. It is really almost as important to do this as to engrave accurately the focussing scale for each instrument. But every worker should test for himself the angle of view, and ascertain whether the finder tells the truth as to what will be recorded on the plate. To do this, two white sticks may

be placed in the ground and moved about so that one comes exactly at each edge of the finder. Thus the view recorded will be that seen between the two white sticks. Then a photograph may be taken, or, if possible, the image examined on a piece of ground glass placed in the focal plane, and the two sticks should appear just on the edges of the plate or the image. In the same way the top and bottom edges may be tested by placing the camera so that the top of some building comes just to the edge of the finder, and laying one of the white sticks on the ground just in the view. Of course, in making these tests the camera must be supported on some firm support, screwed on a tripod for preference. In no other way can the test be made with any degree of certainty.

We have referred to this type of finder as one showing the same angle of view as the lens, and the method we

have just given of testing the finder is to make sure of this correspondence; but the accurate adjustment can only be made when the lens is focussed for one specific distance. Thus if the adjustment is made when the lens is at infinity there will be an error when some very near object is focussed, for the angle of view will then be somewhat narrower. In practice this discrepancy is so slight as to be negligible. But the direct-vision form of finder is one which enables the angle of view of the finder to be adjusted in perfect correspondence with the angle of view the lens is embracing. Further, the finders in type one show automatically the effect of raising the lens to cut off foreground or include the upper part of a building, but the ground glass or brilliant finders, as a rule, do not do so. It is true that some few ground-glass finders have been fitted with a rising lens, and that brilliant finders have



REFRESHMENT

R. R. Sallows .

been arranged to tip up in such a way that agreement may be obtained between finder and plate images, but these are the exceptions. Now, the advantages of the direct-vision finder in its simplest form are that it is accurate as regards angle of view, and, as regards raising to the front, that the view is seen naturally—that is, not reversed laterally, as is the case with other finders, and that the view is never blurred by rain or sea spray, as so often happens with the glass finders of type two. All that is needed is a wire frame the exact rectangle of the effective size of the plate—say, 4 ins. by 3 ins. in the case of a quarter-plate. This frame must be attached to the front of the camera, which carries the lens. To the back carrying the plate must be attached a pointer. The wire rectangular frame may with advantage have cross-wires, so that the pointer may be sighted in line with the crossing of the wires. Now, obviously, when the front is racked in or out, the frame travels with it, and as the pointer is exactly above the plate the distance between pointer and frame varies, just as that between lens and plate does, these distances being always equal to each other. So, too, when the lens is raised the wire frame is also raised, and shows under these conditions just what view is to appear on the plate.

Another form of direct-vision finder makes use of a concave lens, either double concave or plano-concave. In the hands of experts this may come under the type two group, but more usually it belongs to type three, for it requires that the eye shall be placed at exactly the right distance if it is to show with accuracy the angle of view. Most usually it is simply employed to show what is appearing on the centre of the plate, or, in other words, to ensure that the principal object shall come on the center of the plate, the worker relying on his experience of the instrument to get at the proper distance from the object, so as to include everything he requires.

It sometimes happens that with a camera fitted with one of the reflecting types of finder it is required to work with extreme rapidity, and in such cases the camera must often be pointed at the object without using the finder proper, simply sighting along one corner as the camera is lifted up, and at the moment of exposure. It is, in point of fact, surprising how accurate one's aim may be if there is no hesitation about the matter. A tube on the top of the instrument, or let into it, if of sufficient diameter, would form an excellent sighting finder, and one which would make it almost impossible to miss the chief object of the subject.—*The Amateur Photographer.*

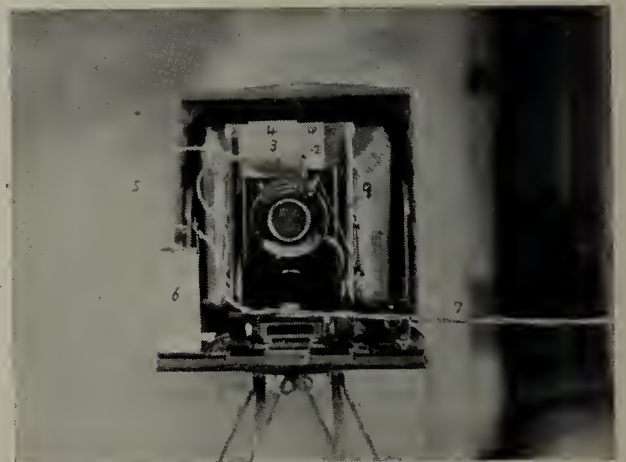
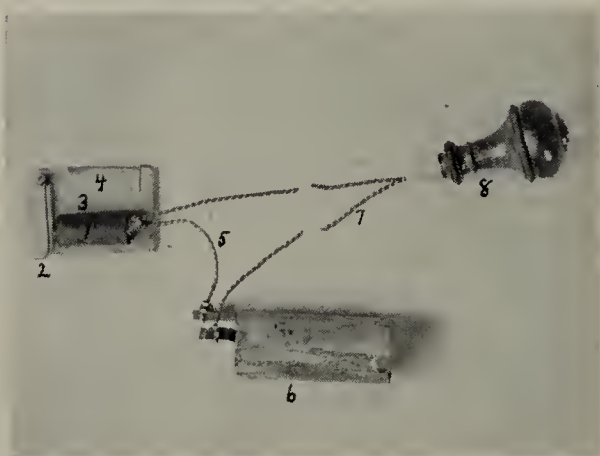


AN ELECTRIC SHUTTER RELEASE

CAMERA users often desire to take pictures including themselves, or of subjects, such as wild animals and the like that can only be taken while the photographer is concealed at a distance from the camera. This requires a long distance shutter release, and for this purpose an easily constructed attachment has been devised that can be used to release the shutter from any distance, by means of the current from a small pocket dry battery.

battery with one wire of the magnet. A wire of sufficient length to reach the desired distance from the camera is attached to the other wire of the magnet, and another wire of the same length is fastened to the other pole of the battery.

A rubber band (9) is slipped over the finger release of the shutter, the other end being slipped over any convenient nut on the camera in such a manner that it gives sufficient pull to draw down the finger release, thus



The device releases the shutter as soon as contact is made by a push button, or otherwise, and consists of a small electro-magnet (1) fastened to a wooden base (3) as shown in the illustrations. To this base is also fastened a pivotal metal hook (2) in such a manner that it is easily drawn over the pull of the magnet. This device is fastened to the top of the front board of the camera by means of a strip of tin bent in such a way that it forms a clamp, (4). A short length of wire (5) connects one pole of the

opening the shutter. The release is now drawn up and held in this position by the metal hook (2). As soon as the current passes through the magnet the hook is drawn over, releasing the finger release, and the rubber band instantly draws it down, thus setting off the shutter at the instant the button is pressed, or contact made in some other way. When everything is connected one can retire to any distance from the camera, limited only by the length of the wires, and at the vital moment make the exposure. This electrical re-

lease can be put to many other uses by the ingenious photographer, such as trapping with the camera, by having the contact in the form of a trip which

is set off by the animal in front of the camera, or used in conjunction with an electrical flash lamp it will set off both shutter and flash simultaneously.

A USEFUL METHOD FOR HIDING DEFECTS IN SKIES

IT unfortunately frequently happens that some of the most artistic negatives are marred by some defect in the sky, which will show in the print. The following method will be found very useful, not only when the sky is defective from marks, but when it is necessary to introduce a little light into a sky unnaturally thin and gray.

Gum to the back of the negative a piece of tracing-paper of the right size, taking care to get it perfectly smooth. Now with a very soft and black drawing-pencil work rapidly on the paper over the defect, making the lines take every direction until indefinite fleecy clouds are formed. More pressure must be used just where the defect is situated, and the edges can be softened off to any extent. In the hands of those who do not work with the brush this method will give more softness, and will be found more manageable than India-ink. When it happens that the sky is too uniform in tint, a few lines rapidly made, and lightly touched, will do wonders in improving the effect of the negative.

Sometimes it is necessary to make a sky a trifle darker in places where it is too white. In such a case gum tissue-paper at the back, and then dip the finger in paraffine oil, and after wiping off that which is superfluous, rub rapidly on the parts it is desirable to darken. If there is not much paraffine on the finger the edge will not be so abrupt. By the employment of the pencil afterward very effective clouds can be introduced with a sky hopelessly blank.

This method will also be found very efficient for vignetting where a special form of vignette is required. The paraffine should be applied freely to the tissue-paper just where the first softening off is desired, and the pencil can be made to complete the gradation. It may be necessary to have cardboard outside, but cotton-wool will not be needed, and thus the general shape of the vignette will not be altered.

With a little taste, most artistic results can be produced, both in landscapes and portraits, by the employment of this method.





CURRENT EVENTS *and* EDITORIAL COMMENT

AFTER the vacations, returning home with a full bag of exposed plates, most of us are greatly tempted to rush through the developing of our plates in a wholesale non-discriminating manner. Were we always quite sure that the best possible had been obtained in the matter of exposure, then lack or wholesale development might prevail, and give us the best average. But it so often happens that errors of judgment or circumstances have limited us in some way. After development we see that a little more personal attention to this or that negative would have made an appreciable difference. Then, again, just at first—after being out of the dark room for a few weeks—our judgment is not quite so keen as it is after a number of negatives have been developed and printed. Past experience leads us to advise that just at first, at any rate, one should develop a few plates, either singly or in quite small batches; let these dry, and take a print or two before completing the remainder of the exposures.

☆ ☆ ☆

Another “after-vacation hint” is a word of warning against the risk of using stale solutions. This does not imply that a few weeks keeping means

wholesale spoiling of all one’s solutions. Some stock solutions, like rodinal, paramidophenol, etc., seem to keep well for a very long time; on the other hand, we feel shy about using solutions of soda sulphite or carbonate that have been made up longer than two or at the most, three weeks. In any case, we do not favor making up solutions or anything in great quantity that one uses in development, as all developers work better when freshly dissolved. Moreover, making up only such quantities as are likely to be used up within the month makes for economy, as well as clean-working solutions. In general, it is cheaper to throw away suspected solutions than to risk spoiling exposed plates by using stale developers. We can always renew the solutions, but not always repeat the exposures.

☆ ☆ ☆

Next to the error of under-exposure we may place its common companion, over-development. It is a natural mistake to suppose that if a plate has been under-exposed the best treatment we can give it is extra development. But as a matter of experience it is found that if the least exposed parts—the shadow details—do not come out in a moderate time of development

they will not come out at all, no matter how long development is continued. Then, again, if development be continued beyond the stage when shadow detail has come out we get nothing further in the way of picture image, and at the same time are accentuating the contrasts. In the course of time we get the high lights so dense that by the time they are printed through we get the darker parts so intensely dark as to be all one flat and detail-less mass of meaninglessness; shorter printing means shadow detail, but no gradation in the lighter tones. The practical moral is careful avoidance of over-development on the one side or under-development on the other.

☆ ☆ ☆

This is, of course, a counsel of perfection. But suppose we err in one or other direction, what then? Provided that all the desired detail in the shadows has put in an appearance, then under-development is only a matter of insufficient density contrast. This can be corrected by adding more dense material to that already in existence by the ordinary process of intensification. If we err here, then, we can remove the excess of added material (by the uranium process we can bring back the negative to its original condition quite easily). But, on the other hand, over-development means that we must remove some of the material, and if, in error, we remove too much we have no means of compensating for the error. Thus it is easily seen that it is safer to intensify than to reduce a negative. Whence it follows that, provided we have got out all the shadow detail, it is better to

under-develop than to over-develop. Also a soft contrast negative offers us a greater range of after-treatment than does a hard-contrast one.

☆ ☆ ☆

Unless the worker has had considerable experience it is quite advisable for him to take a trial print before attempting anything in the direction of after-treatment. If economy of material is a consideration, he need not use a full-size sheet. A quite small piece will suffice—not more than a quarter the size of the negative—provided that this is large enough to include a piece of the densest and a piece of the thinnest parts of the negative, so that we may have the two extremes of the printing scale at one printing. Such trial prints are of great assistance, first in classifying the negatives into those which require intensification—much or little, as the case may be—and those that require reduction, which is always a process that calls for cautious treatment.

☆ ☆ ☆

Chance or coincidence has brought under our notice during the last few days quite a number of out-of-focus prints which, curiously enough, illustrate various causes for a similar result. As this trouble seems to be a feature of the moment, it may serve a useful purpose to point out those symptoms which help us to diagnose the cause of the trouble. If all the parts and planes are out of focus we may suspect that the camera moved at moment of exposure. In that case the blur probably will show more in one direction than another, according as the camera was moved up or down, or sideways.

The general trend to smaller rather than larger pictures has attracted a good deal of attention. One reason no doubt is to be found in the growing tendency to use smaller cameras of the pocket type. General experience goes to show that when we enlarge a negative of the average type beyond some four or five diameters (4 by 3 to 16 by 12, or 20 by 16) we are apt to get a gritty or granular effect that is far from pleasant. But to-day one hears the quarter-plate being called a large size of hand-camera. The $3\frac{1}{2}$ by $2\frac{1}{2}$ plate is far more popular as a pocket instrument, while still smaller sizes are coming into vogue. If we enlarge the $3\frac{1}{2}$ by $2\frac{1}{2}$ plate to the above-named degree we only get a 14 by 10 or 17 by 12 print. There are other considerations which have to be taken into account. When the picture is on a small scale we may easily accept and pass over undesirable features which are so small that they pass without becoming irritating, but these same features enlarged, say, fourfold, may become quite unacceptable. Thus, the sail of a boat seen on a quite small scale may at times pass as a small patch of blank white paper, but the same object occupying a noticeable extent of the picture space becomes offensive if presented as a conspicuous patch of blank paper. The same applies to small and large patches of black. Again, if some subjects (compositions) are enlarged beyond a certain degree, the pictures "fall to pieces," as the saying is. On the other hand, there are some compositions which, seen on a small scale, have a niggling appearance, but when enlarged to a suitable degree are greatly

benefited by being "opened out." Thus each case has to be treated on its merits—no hard-and-fast rules of procedure can be laid down. Again, one has to take into account the size and lighting of the room where the picture is to be hung. In a large and well-lighted gallery we can accept a much larger and bolder picture than is entirely welcome in a small apartment in a somewhat softened and subdued light. These considerations by no means exhaust the considerations entering into this matter, but they may serve to show that the size of the picture and degree of enlargement best suited to it is not a question to be dismissed in a moment.

☆ ☆ ☆

A PICTURE SAVER

Many of us are careless, and especially so when it comes to minor incidents in our every-day living. We may take a remarkable picture with our camera, and while talking to our companion—or even without a companion for an excuse—forget to turn our film. Of course our next picture goes on the one we have already taken, and we lose them both.

A few inventions have been made to uncover some device to aid the careless photographer in saving his pictures. Some of the more advanced ideas have been mentioned in THE TIMES, but this is new and has, as yet, never been brought to public notice. Mr. P. J. Besosa, of New York City, has already applied for a patent for a "Picture Saver," an ingenious device quite novel in its very essence. He leaves the old idea of trying to apply some form of lock to

the film spool, and diverts his efforts to the shutter, in connection with turning of the film. There is a very delicate mechanism which touches the film, as it is rolled, and from this a cable connected to the shutter exposure-arm. After a picture is taken (the exposure may be either time or instantaneous), the exposure-arm of the shutter is locked, so that it is impossible for one to again expose the already taken picture. This lock can only be released by turning the film for the next exposure.

☆ ☆ ☆

On page 285 of our July issue, we published an article by Charles I. Reid on "Using the Tripod." It has been brought to our attention that this same idea by C. A. Conradi, was published in the January issue of *The Camera*, and we are glad to give Mr. Conradi full credit for the originality of this method of using the tripod.

☆ ☆ ☆

The August issue of *Portrait* contains among other useful information a very suggestive and helpful article by Sydney Allan on "The Treatment of the Neck." This is the tenth of the series of "The Features of the Human Face." Copies will be supplied by writing the Ansco Company, Binghamton, N. Y.

☆ ☆ ☆

The Goerz American Optical Company recently issued two very attractive booklets on their Lenses and Cameras. These contain a great deal of good solid information for the camera user, and if for any reason, your dealer cannot furnish you with a copy, write to C. P. Goerz American

Optical Co., 317 East 34th Street, New York City, who will be glad to supply you.

☆ ☆ ☆

PRACTICAL CINEMATOGRAPHY AND ITS APPLICATIONS, by Frederick A. Talbot. With 93 illustrations. 262 Pages. 12mo. Cloth. \$1.00 net. Postpaid, \$1.10.

Motion pictures have entered so much into the needs of the world's amusement and instructions that both professional and amateur photographers will soon find that a knowledge of the art of making pictures must be a part of their every-day equipment. This is practically the only authoritative work on the subject, and covers all the processes of motion picture work simply and thoroughly and in a non-technical manner.

The book has been written, moreover, with the express purpose of assisting the amateur who is attracted toward cinematography. It is not a technical treatise, but is written in such a manner as to enable the inexperienced to grasp the first principles of the art, and the apparatus employed in its many varied applications.

At the same time the volume will also prove of use to the expert hand, by introducing him to what may be described as the higher branches of the craft.

☆ ☆ ☆

A BOOK ON THREE-COLOR PHOTOGRAPHY
THREE-COLOR PHOTOGRAPHY: WITH
SPECIAL REFERENCE TO THREE-
COLOR PRINTING AND SIMILAR PRO-
CESSES,

is the title of a book by Arthur Von Hubl, director of the Research Depart-

ments of the Royal Imperial Military Geographical Institute in Vienna, translated by Henry Oscar Klein. The first German edition of this work appeared in 1907, and it was probably the first work published which entered into all the details concerning three-color photography.

This work has been largely rewritten since the first English edition appeared in 1904.

During the ten years which have since elapsed, important additions have been made to our knowledge of color sensitizing, whilst complicated processes have been simplified, and have become the foundations on which prosperous businesses have been established.

Three-Color Process Work, once a monopoly of one or two firms, which are now long extinct, has become the property of all. This is chiefly due to the influence of standard works on Color Photography, of which Hubl's "Three-Color Photography," is a classical example, and to the efforts of numerous excellent technical journals in disseminating knowledge of the processes involved.

The book is published by A. W. Penrose & Co., Ltd., 109 Farrington Road, London, England, and sells for \$3.50 a copy.

☆ ☆ ☆

NOTES FROM THE ILLINOIS COLLEGE OF
PHOTOGRAPHY

At the National Convention of the P. A. of A. held at Indianapolis, July 19-24, there was a large representation of the students and former students of the college, seven having had pictures accepted. Mr. Edward Weston,

student of 1908, was successful both at this Convention, and at the one in 1914, in having one of his prints chosen for the Salon.

☆ ☆ ☆

THE SPELL OF THE HOLY LAND, by Archie Bell. The Page Co., Boston, Publishers. Price, \$2.50 net.

Of all places in the world, the one above others which without visitation casts a charm over us is the Holy Land. This is accounted for by our earliest teachings, and the happenings and promises of life eternal made therein through the Saviour of Mankind.



"The Street called Straight," Damascus

Mr. Bell's journey has probably been undertaken by others with as much thoroughness, and we do not doubt that they were as much under a spell even though the hotel accommodations for tourists are very poor. This feature is being rapidly improved. The facilities for travel are very crude, the conveyances primitive and the roads in most cases

wretched. But with all these discomforts the pilgrim will travel on, subjecting himself to inconveniences that he may see further more of the places made holy through association with Him, the Son of God, and his sojourn here on earth.

The itinerary of this journey is from Egypt to Jaffa, Judea, Jerusalem, Bethlehem and the surrounding country of each. The text is written in such manner as will hold the attention of all as the record of the journey is revealed. The book contains twenty chapters, bibliography and index, a map in colors, and forty-eight illustrations, eight of which are in color. A most interesting book for all and especially so for the student or teacher.

☆ ☆ ☆

PRACTICAL PHOTOGRAPHY

is the name of a new series of photographic books which treat of various photographic subjects of present-day interest in a thorough and practical manner. Each one gives all the information on its subject which seems to the editors to be worth the attention of the average worker. The books are well printed, sewed to open flat, illustrated when necessary, and will fit the pocket. They sell at 25 cents in paper and 50 cents in cloth, and you can get them from most photographic dealers. Two are ready now.

THE SECRET OF EXPOSURE

is a thorough guide to exposure under all conditions, and will enable you to make perfect negatives every time. All the factors of exposure are fully explained, exhaustive tables given, and the use of meters thoroughly gone into.

BEGINNER'S TROUBLES

contains some hundred practical paragraphs on how to make perfect negatives and prints, written from long experience and useful to every photographer. If your dealer does not have them, we will send them postpaid on receipt of price.

☆ ☆ ☆

THE INDIANAPOLIS CONVENTION

One of the largest and best conventions ever held by the Photographers' Association of America closed July 24, at Indianapolis, with the selection of Cleveland for the 1916 meeting and the election of the following officers:

President, L. A. Dozer, Bucyrus, Ohio; First Vice-President, Ryland W. Phillips, Philadelphia, Pa.; Second Vice-President, Homer T. Harden, Wichita, Kan.; Treasurer, R. W. Holsinger, Charlottesville, Va. Mr. John I. Hoffman retains the position of paid secretary.

The Women's Federation elected the following officers: President, Maybelle Goodlander, Muncie, Ind.; First Vice-President, Clara Louise Hagins, Chicago, Ill.; Second Vice-President, Mamie Gerhard, St. Louis, Mo.; Secretary-Treasurer, Bayard Wooten, New Berne, N. C.

Certificates for the permanent exhibit were presented to Mary L. Smith, Binghamton, N. Y.; Pearl Grace Loehr, New York City; Miss Meade, Atlanta, Ga.; Gerhard Sisters, St. Louis, Mo.; E. E. Doty, Battle Creek, Mich.; Joe Knaffl, Knoxville, Tenn., complimentary recognition; Rembrandt Studio, Philadelphia, Pa.; C. R. Reeves, Anderson, Ind.; J. L. Sipprell, Buffalo, N. Y.; Edward Weston,

Tropico, Cal.; Victor Georg, Chicago, Ill.; Titus & Burnell, Buffalo, N. Y.; Hoover Art Company, Los Angeles, Cal.; J. C. Strauss, St. Louis, Mo.; James W. Porter, Youngstown, Ohio; J. A. Bell, Cincinnati, Ohio, and Stricker Studio, Pittsburgh, Pa.

With about fifteen hundred paid members and a convention attendance of over twelve hundred, the P. A. of A. seems in the most flourishing condition it has ever enjoyed, and the general good feeling and spirit of co-operation prevailing among the members point to the fact that the prosperity and success of the organization are not measured by numbers alone.

The manufacturers' exhibits were displayed at The German House, a clubhouse frequently used for convention purposes, and the business meetings were held in the auditorium.

☆ ☆ ☆

TIPS FOR THE AMATEUR.

Dip corks in melted wax before corking up chemicals and they will be easy to remove, and will keep the chemicals air tight.

A convenient way to keep ortol, metol, etc., is to weight it out in small amounts—say, ten grains—and put it in large size capsules. Return these to the original bottle and keep tightly corked. One or more capsules can be turned out in the hand without exposing the rest to the air.

A medicine dropper is almost indispensable in the dark room, but it is rather aggravating to try to use ordi-

nary straight dropper in a large bottle. However, the dropper with the tip bent at a small angle will get at the last drop of chemical no matter how large the bottle. A mixture of one part salt, one part bicarbonate of soda, and two parts common wood ashes will clean brass, enamel or rubber. Rinse well and dry thoroughly. C. B. P.

☆ ☆ ☆

DARK ROOM HELPS.

A cloth folded several times placed under the trays used in developing will absorb all spilt chemicals, thus preventing rivulets from ruining carpets or clothes.

If one should have an incandescent electric light in the dark room, a dandy developing light can be made by covering bulb with the black paper that comes with plates and paper, first cutting a hole the size of a dollar on one side. Now cover the black paper with ruby fabric, fastening both papers securely with rubber bands. The light with the ruby fabric alone would be too strong for safety.

If the hands are washed after each immersion in developer, using a large size crystal of citric acid freely instead of soap, there will be little danger of staining.

Thrust two pins crosswise through the corks of all poison chemicals so the point will stick one if they should try to remove the cork. Then should you carelessly leave it in baby's reach, it will let it alone. G. B. P.

The Photographic Times

With Which is Combined

The American Photographer and Anthony's Photographic Bulletin

Classified Advertisements

Advertisements for insertion under this heading will be charged for at the rate of 25 cents a line, about 8 words to the line. Cash must accompany copy in all cases. Copy for advertisements must be received at office two weeks in advance of the day of publication, which is the first of each month. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

RATES FOR DISPLAY ADVERTISING SENT ON APPLICATION

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,
135 West 14th Street, New York

HANDY REDUCING PASTE

QUICKEST and SAFEST

For accurate local work on a DRY NEGATIVE

1 Box and Directions, 30 cents

L. C. BISHOP, 508 Dean Bldg., South Bend, Ind.

STUDIO FOR SALE in Eugene, Oregon. Best located—best studio in town; 11 x 14 outfit; large skylight and large operating room. Large electric flash skylight for night work. Other business demands attention.

THOMPSON BROS.

Photographers Sell Post Cards from your negatives. Put them in the stores, there is money in it. **YOU HAVE THE NEGATIVES, WE WILL MAKE THE CARDS**

100 from 1 negative, \$ 2.00	from 5 to 10 negatives, \$ 3.25
300 from 1 negative, 4.20	from 5 to 10 negatives, 6.30
500 from 1 negative, 6.25	from 5 to 10 negatives, 8.00
1000 from 1 negative, 10.00	from 5 to 10 negatives, 12.50

Delivery from 3 to 5 days, return postage 10 cents per 100
Sample card and complete bargain list of cameras, lenses, etc. free.

A new Post Card size convertible anastigmat lens in cells, with case, will cover 5 x 7 plate wide open, \$18.00 post paid.

We take cameras, lenses, etc., in exchange.
Ask us before buying.

WRIGHT PHOTO SUPPLIES RACINE, WIS.

EXPERIENCED LADY PHOTO-GRAPHER desires position. Commercial or studio. Receptionist, spotting and office assistant. Stenographer. References.

Address EXPERIENCE, Photo Times.

KEEP yourself posted. Read all the advertisements in this issue carefully—and don't forget to mention **THE TIMES** when you write.

STOP! LOOK!

Our New No. 19 **BARGAIN LIST** which is now ready is better than ever. Contains some startling values in Cameras, Lenses and Photographic Supplies. Imported Ica and Butcher Cameras. Headquarters for **Cyko Paper**.

Write today for **FREE COPY**
NEW YORK CAMERA EXCHANGE
111½ Fulton Street, New York

BARGAIN LIST 127

NOW READY

GREATEST EVER!

WILLOUGHBY & A SQUARE DEAL

810 BROADWAY, NEW YORK CITY

Hurd's Lawn Finish is the finest type of the fashionable fabric papers. Its quality is the best; it is beautiful in appearance, and the writing surface is exceptionally pleasing.

Hurd's Suede Finish represents the best quality in the medium smooth finish, and is much in fashion. It is also the finest wedding paper made. We carry a large stock of these fine papers.

STYLES & CASH,
135 West Fourteenth Street,
New York.



Learn a Paying Profession

that assures you a good income and position for life. For 20 years we have successfully taught

PHOTOGRAPHY

Photo-Engraving and Three-Color Work

Our graduates earn from \$20 to \$50 a week. We assist them to secure these positions. Learn how you can become successful. Terms easy—living inexpensive. Write for Catalogue—NOW.

ILLINOIS COLLEGE OF PHOTOGRAPHY
967 Wabash Avenue, Effingham, Illinois

SEND US the names of your friends who are interested in photography—we want to send them a sample copy of **THE PHOTOGRAPHIC TIMES.**

Practical Photography

is the name of a new series of photographic books which will treat of various photographic subjects of present-day interest in a thorough and practical manner. Each one will give all the information on its subject which seems to the editors to be worth the attention of the average worker. The books will be well printed, sewed to open flat, illustrated when necessary, and will fit the pocket. They will sell at 25 cents in paper and 50 cents in cloth, and you can get them from most photographic dealers. Two are ready now.

THE SECRET OF EXPOSURE

is a thorough guide to exposure under all conditions, and will enable you to make perfect negatives every time. All the factors of exposure are fully explained, exhaustive tables given, and the use of meters thoroughly gone into.

BEGINNER'S TROUBLES

contains some hundred practical paragraphs on how to make perfect negatives and prints, written from long experience and useful to every photographer. If your dealer does not have them, we will send them postpaid on receipt of price.

American Photographic Publishing Co.
435 POPE BUILDING, BOSTON, MASS.

USE

WHITING PAPERS

Bonds

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IN WHITE AND COLORS

WHITING PAPER CO.

Lafayette and Howard Streets . . . New York

Mills · Holyoke, Mass.

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

Three Thousand Dollars for Pictures.

No one knows the Kodak more intimately than the Kodak amateur. The only way any of us can know a thing thoroughly is from experience and it is by actual experience, day in and day out, that the amateur knows his Kodak. He has learned the various features that distinguish it—its simplicity, its dependability, and he has discovered the many uses to which it may be successfully put. And so the advertising contest of the Eastman Kodak Company offering \$3,000 for photographs illustrating Kodak advantages or picture-taking delights is of particular interest to the Kodak amateur—and Kodak amateur means *you*.

You would be perfectly willing to admit that the combination of your experience, brains, and Kodak had a very real value to you. It may be worth something to us—as much as five hundred dollars, perhaps. In any event, the time spent in preparation for the contest will be anything but wasted. You will find it interesting and a line of work with which any Kodaker can well afford to become better acquainted.

The contest this year is being conducted along unusually interesting and definite lines. Pictures are desired illustrating any of the five slogans: "Take a Kodak with you", "All outdoors invites your Kodak", "There are no game laws for those who hunt with a Kodak", "Let the children Kodak", and "Write it on the film at the time". For the picture best illustrating each slogan, three hundred dollars will be awarded, for the second best, two hundred dollars. In addition,

there is a special cash prize of \$500.00 for the best new slogan together with a picture illustrating it. Here is an opportunity for absolutely original work, interpretative and inventive as well.

It is quite probable that, besides the prize winning negatives, others of particular merit will be purchased. If this is the case, special arrangements will be made.

It is readily apparent that we do not intend to pay hundreds of dollars for simply good, or merely pretty, pictures. They must have merit pictorially, of course, but as they are to be used for advertising purposes they will be judged largely from an advertising view point. Will this picture help sell Kodaks? That is the real test. Kodak advantages or photography's pleasures must be so visualized that they connect up with the Kodak idea. Study the illustrations of the Kodak advertisements in the magazines and you will see what we mean. You will find that each of them, even apart from the text, has a real advertising value and that the idea is presented in such a big way that you can't escape it.

A circular giving all the details of the contest will be mailed on request.

The contest closes November 1st, 1915.

The Eastman Film Negative Album will preserve your vacation negatives against injury or loss.

THE PRICE: \$0.75 to \$1.50 according to size.

EASTMAN KODAK CO., ROCHESTER, N. Y.

At your dealer's.

(1)

When writing to advertisers please mention THE PHOTOGRAPHIC TIMES.

(11)

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

ELIMINATE GUESS-WORK TEMPERATURE.

There is always a certain temperature at which a photographic solution does its best work. You may get fair results



Thermometer
Stirring Rod.

for a time with guess-work temperature but sooner or later you are going to find yourself knee-deep in trouble. In developing film, for example, a too cold developer, while prolonging the time of development indefinitely, may also tend to break down the proper relationship between the shadows and high lights. A too warm developer is quite apt to produce flat negatives. In paper development, too, a cold solution detracts from the brilliancy of the print while a warm solution leads to stains. A good thermometer costs but little and with its use all guess-work is eliminated. You *know* the solution's temperature and can prevent fluctuations this way or that with ice or warm water.

With little or no trouble you will be able to keep the temperature at the exact degree specified in the directions—the point where the solution will do its best work.

We manufacture two thermometers that are of particular interest to the amateur because they are especially constructed for his use and will be found both convenient and reliable.

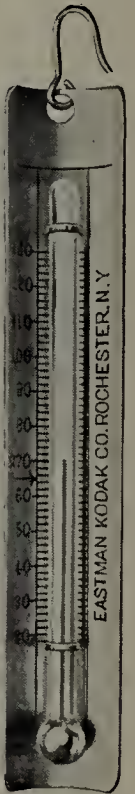
The Eastman Thermometer is equally valuable for tank or tray development. Its construction of curved back with a hook at the top makes it most conven-

ient to handle. The Thermometer Stirring Rod, as the name implies, performs a double service. You always know the temperature of the solution you are stirring. One end of the rod is flattened for the crushing of chemicals.

Either of these thermometers is, of course, absolutely accurate and will do its full share in eliminating possible trouble.

The Price.

Eastman Thermometer, - \$.50
Thermometer Stirring Rod, .60



Eastman
Thermometer

FLASH LIGHT WORK SIMPLIFIED

Some amateurs are always going to take up flash light work and each year sees them equally determined but just as far from action as ever. The real cause of their hesitancy is their suspicion that flash light work is of such a delicate nature that its proper execution may well be left to the expert.

There is just one treatment for this sort of amateur the administering of which might well be termed a "friendly act". Lead him down to his dealer's and provide him with a copy of the free booklet, "By Flashlight" published by the Eastman Kodak Company and authoritative to the smallest detail. Then one of two things is bound to happen. Either the amateur will neglect to read the booklet or he will become, at once, an enthusiastic flash light operator.

(2)

Eastman Kodak Company

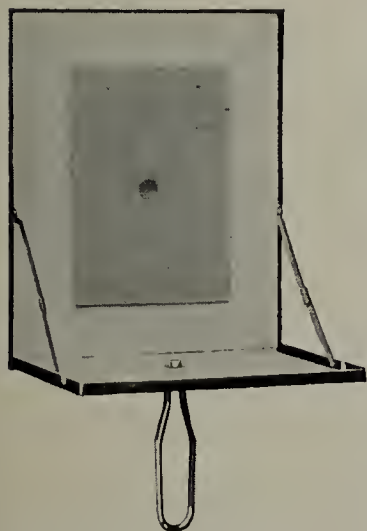
ROCHESTER, N. Y., *The Kodak City.*

Flashlight work, always a fascinating branch of photography, has been so simplified through the agency of the Eastman Flash Sheets and the Kodak Flash Sheet Holder that all the information necessary for successful flash light work is easily included in this one little book. The field is covered so definitely that a careful reading puts even the novice beyond the likelihood of failure. Before even the skeptical amateur has read many pages he begins to realize this and a couple of evenings of actual work thoroughly convince him.

In one very vital point, flash light work is much simpler than that of daylight—namely the matter of illumination. In daylight, the sun is master—to a considerable extent, it decides the lighting scheme. In flashlight work, the operator is master—he may have his lighting where he wills—and the quality of illumination is constant.

Eastman Flash Sheets are in a convenient form for handling and give just the right illumination for pleasing results. They are not instantaneous and their broad, soft light doesn't startle

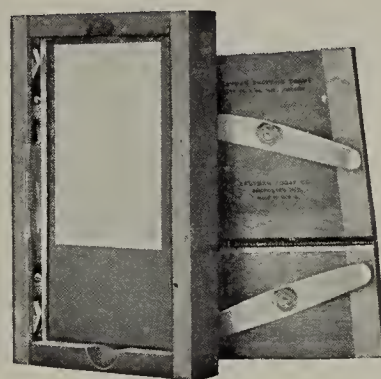
the subject. This quality recommends them at once for portraiture. The Kodak Flash Sheet Holder increases both the convenience and usefulness of the flash sheets. It makes the operator's control over his illumination absolute. The Holder also simplifies the matter of ignition as it



Kodak Flash Sheet Holder,
Price, \$1.00.

allows the sheet to be lighted from the back with a metal sheet between the operator and the flash. The sheet also acts as a reflector.

Every good time is a good time to Kodak and how many of our good times occur in the evening. Informal gatherings of all sorts or just the comfortable scene around the fireside or the reading table. Opportunities for good flash light pictures come thick and fast—and such pictures form the cream of many a photographic collection.



With the new

Kodak "Maskit" Printing Frame

the negative and mask are locked tightly together, for one print or a hundred—they *can not slip.*

And such perfect register between the mask and paper is secured that, when standard size paper is used, uniform white margins on all four sides of the print may be obtained—*no trimming is necessary.*

THE PRICE.

Kodak "Maskit," 3¼ x 4¼, opens two-thirds,	\$0.40
Kodak "Maskit," 3¼ x 5½, opens two-thirds,	.45
Kodak "Maskit," 5 x 7, opens two-thirds,	.50

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

(3)

When writing to advertisers please mention THE PHOTOGRAPHIC TIMES.

(13)

The experience is on the scale.

The Kodak Autotime Scale



tells you at a glance the proper exposure under any condition of out door photography.

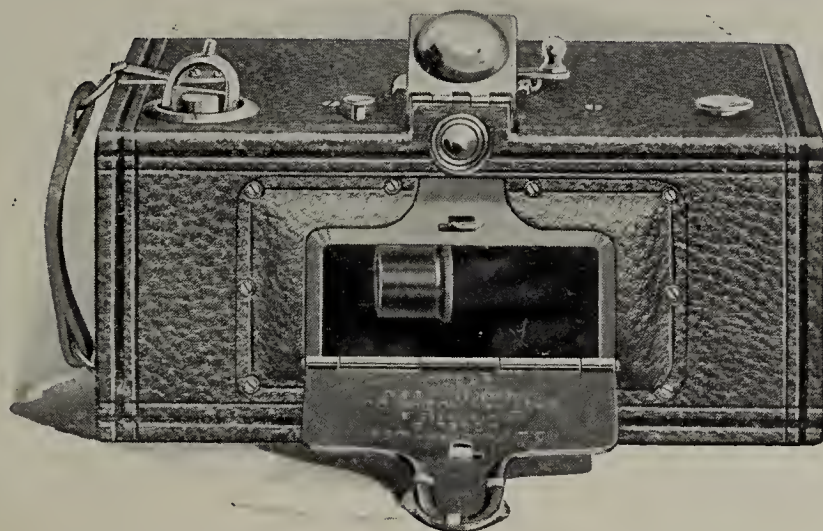
Attached to the shutter of your Kodak, its information is always in plain view; you have but to set the speed and diaphragm indicators at the points governing the conditions under which the picture is to be made and a correct exposure is assured.

THE PRICE.

Kodak Autotime Scale, \$1.00 and \$1.50 according to style.

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.



The PANORAM KODAKS

The sweep of the Panoram lens commands the whole view—not merely a part of it. Horizontal pictures of landscapes, buildings, out door groups and vertical pictures of high waterfalls, mountains and subjects of like nature may be photographed in their entirety with a single exposure.

No other type of camera can even attempt the work so simply and so satisfactorily performed by the Panoram Kodaks.

THE PRICE.

No. 1 Panoram Kodak for rectangular pictures $2\frac{1}{4}$ x 7 inches,	-	\$10.00
No. 4 Panoram Kodak for rectangular pictures $3\frac{1}{2}$ x 12 inches,	-	20.00

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

The upper half of the

Kodak Sky Filter

is stained yellow, thus holding back the bright light of the sky against over exposure while the lower half, being colorless, allows the foreground the normal exposure it demands.

With it you hold the cloud effects, at only double normal exposure.

The price ranges from fifty cents to one dollar according to size.

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

At your dealer's.

THE PHOTOGRAPHIC TIMES

PRINT COMPETITION

ON account of the continued success of the Revived Print Competition, the Editorial Management of THE PHOTOGRAPHIC TIMES will continue these pictorial contests until further notice.

The next contest will be closed September 30th, 1915, so as to be announced in the November Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be the same as heretofore, as follows:

First Prize, \$10.00

Second Prize, \$5.00

Third Prize, \$3.00

And three honorable mention awards of a year's subscription to
THE PHOTOGRAPHIC TIMES.

In addition to which those prints which deserve it, will be Highly Commended.

CONDITIONS:

The competition is open freely to all who may desire to compete, without charge or consideration of any kind. The subject for this competition is "Outdoor" in landscape or figure.

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put the name and address on the back of each print.

Send particulars of conditions under which pictures were taken, separately by mail, also marking data on back of each print or mount. Data required in this connection: light, length of exposure, hour of day, season and stop used. Also material employed as plate, lens, developer, mount and method of printing.

NO PRINT WILL BE ELIGIBLE THAT HAS EVER APPEARED IN ANY OTHER AMERICAN PUBLICATION.

All prints become the property of this publication, to be used in THE PHOTOGRAPHIC TIMES, as required, to be reproduced either in our regular pages or criticism department; credit will, of course, be given, if so used; those not used will be distributed, pro rata, among the hospitals of New York, after a sufficient quantity has been accumulated.

We reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Foreign contestants should place only two photos in a package, otherwise they are subject to customs duties, and will not be accepted.

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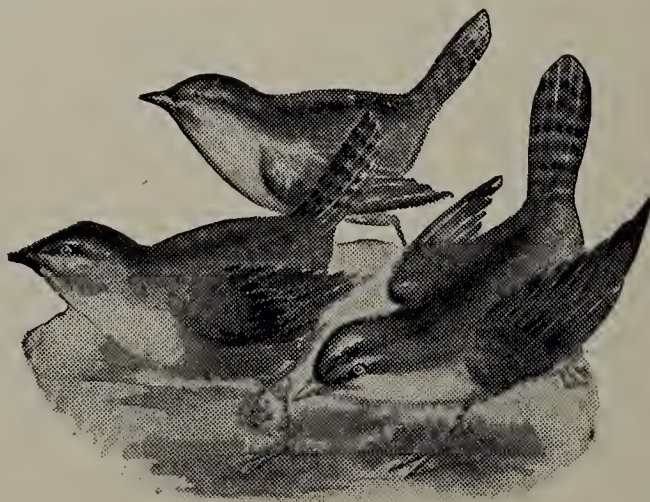
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